ORDER NO. AD9902011C8

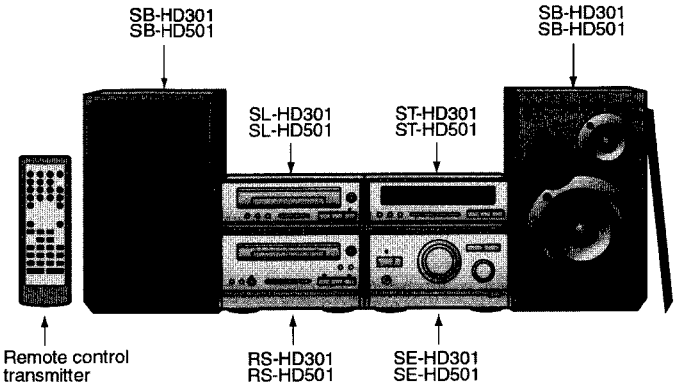
Service Manual

Compact Disc Player

COMPACT disc DIGITAL AUDIO

MASH※ multi-stagenoiseshaping

※ MASH is a trademark of NTT.



SL-HD301
SL-HD501

Color

(N).....Gold Type

Area

E.....Europe, Asia Latin America, Middle Near East, Africa, Oceania, East Europe and Russia.

System:SC-HD301
SC-HD501

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Note:

Refer to the service manual for Model No. SE-HD301/501(ORDER NO.AD 9902013C2 and AD9902014C2) for information on "ACCESSORIES", "INSTALLATION", "CONNECTIONS" and "PACKAGING".

RAE0152Z Mechanism Series

Specifications

■Audio

DA converter:1 bit 2 DAC MASH※

Digital output terminal:Optical×1

■Pickup

Wavelength:780nm

■Format

Sampling frequency:44.1kHz

■General

Dimensions (WxHxD):	(SL-HD301)186 x 67 x 229 mm
	(SL-HD501)196 x 67 x 229 mm
Weight :	1.2 kg
Power Supply:	DC13V/10V
Power Consumption:	10W

Notes:

1.Design and specifications are subject to change without notice.

2.Dimensions and weight are approximate.

■System

SC-HD301:

Tuner:ST-HD301,**Compact Disc Player:SL-HD301**,Amplifier:SE-HD301,Cassette Deck:RS-HD301,Speakers:SB-HD301 (Made in PAIS.)

SC-HD501:

Tuner:ST-HD501,**Compact Disc Player:SL-HD501**,Amplifier:SE-HD501,Cassette Deck:RS-HD501,Speakers:SB-HD501 (Made in PAIS.)

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

© 1999 Matsushita Electric Industrial Co. Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

CONTENTS

Page

1 Befor Repair **3**
2 Precaution of Laser Diode **3**
3 Operating Instructions **4**
4 Handling Precautions for Traverse Deck **5**
4.1. Handling of traverse deck (optical pickup) 5
4.2. Grounding for electrostatic breakdown prevention 5
5 Operation Checks and Component Replacement Procedures **6**
6 Error Code Display and Servo Adjustment Function **11**
6.1. Error code display procedure 11
6.2. Servo adjustment procedure 11
6.3. Table 1 12
6.4. Table 2 12
7 Mesurements and Adjustments **13**

Page

7.1. Power Supply to This Unit alone 13
7.2. To Check Signals 13
8 Block Diagram **14**
9 Schematic Diagram Notes **17**
9.1. Scheamtic Diagram Notes 17
9.2. Type Illustration of IC's, Transistors and Diodes 17
10 Schematic Diagram **18**
11 Printed Circuit Board Diagram **23**
12 Wiring Connection Diagram **25**
13 Terminal Function of IC's **26**
14 Replacement Parts List **29**
15 Loading Mechanism Parts Location **32**
16 Cabinet parts Location **34**

1 Befor Repair

This equipment (SL-HD301/501),which is a component of this system,is supplied with power from the amplifier (SE-HD301/501) through the tuner (ST-HD301/501). When repairing this equipment or checking operation of the system, be sure to connect the amplifier and tuner with it.

This equipment, even in the state of it as a single equipment, permits power supply and operation check. When operating it as a single equipment without the amplifier and tuner, refer to the paragraph of "7 Measurements and Adjustments".

2 Precaution of Laser Diode

CAUTION:

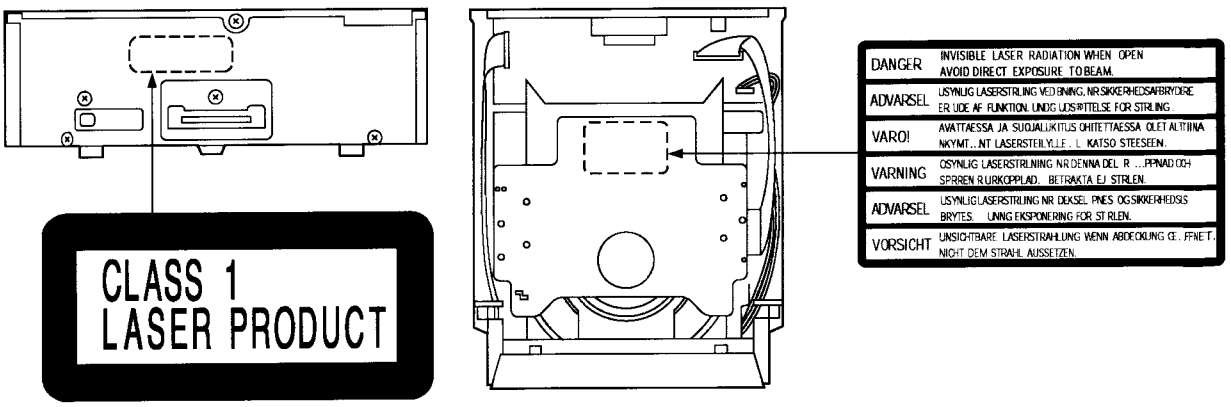
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted fromthe pickup lens.
Wave length:780 nm
Maximum output radiation power from pickup: 100 µ W/VDE
Laser radiation from the pickup lens is safety level,but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjsuted.
3. Do not look at the focus lens using optical insturments.
4. Recommend no to look at pickup lens for a long time.

ACHTUNG:

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Leserstrahlung von der
Laserinheit adgestrahit.
Wellenlänge: 780 nm
Maximale Strahlungsleistung der Lasereinheit: 100 µ W/VDE
Die Strahlungan der Lasereinheit ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlines blicken.
4. Nicht über längere Zeit in die Fokussierlines blicken.

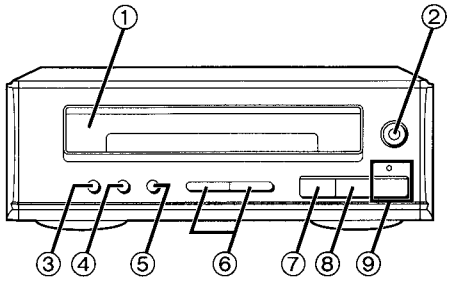


LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

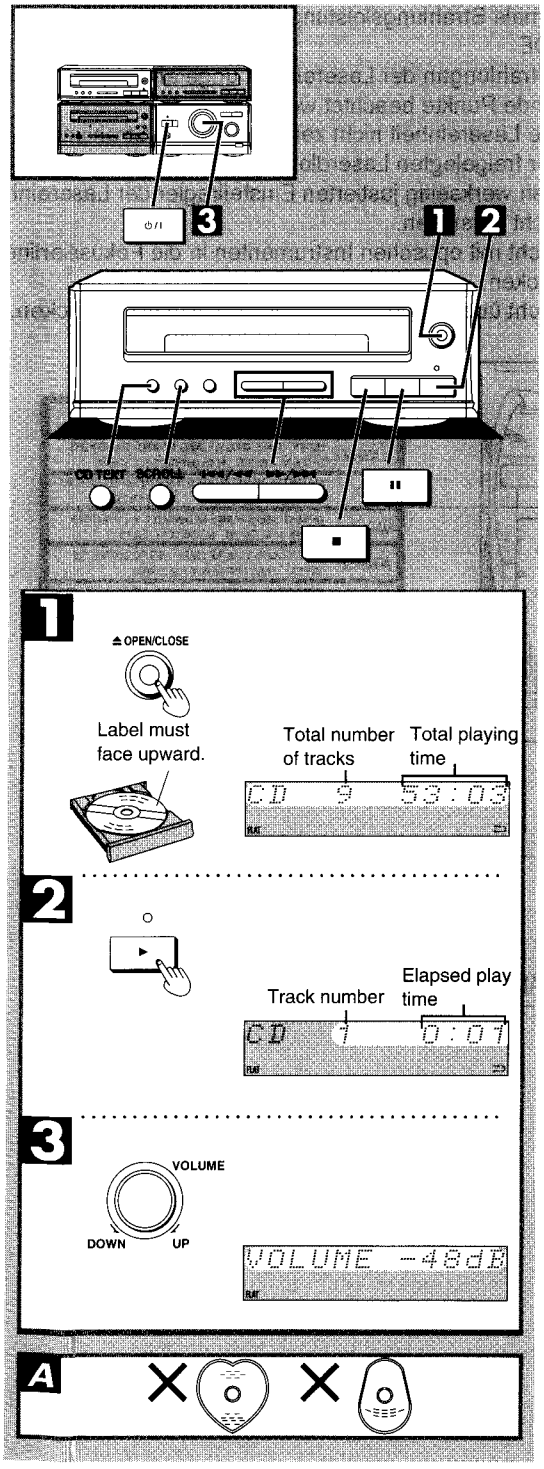
3 Operating Instructions

■ Front Panel Controls



① **Disc tray**
② **Disc tray open/close button (▲ OPEN/CLOSE)**
③ **CD TEXT button (CD TEXT)**
④ **Scroll button (SCROLL)**
⑤ **AI edit button (AI EDIT)**
⑥ **Skip/search buttons (I◄◄/◄◄, ►►/►►I)**
⑦ **Stop button (■)**
⑧ **Pause button (❚❚)**
⑨ **Play button and indicator (►)**
The color of the indicator depends on the operation.
If stopped: orange
If playing or paused: green

■ Listening to Compact Discs



Sequential play

Preparation: Press [⏻/I] to turn the unit on.

1 Press [▲ OPEN/CLOSE] and set a CD on the tray.
Press [▲ OPEN/CLOSE] once again to close the tray.
When the "CD" input source is selected, total number of tracks and total playing time will appear on the display.
If you insert a CD TEXT disc, CD TEXT data is displayed (see below).

2 Press [►].
Play starts from the first track and stops after the last track.

3 Adjust the volume.

To stop the disc:
Press [■].

To pause play:
Press [❚❚] during play. To resume play, press [❚❚] or [►].

Skipping tracks:
Press [I◄◄/◄◄] to skip backward. Press [►►/►►I] to skip forward.

Searching through tracks during play:
Press and hold [I◄◄/◄◄] to search backward. Press and hold [►►/►►I] to search forward.

Note

- During random play, you can not skip to tracks which have been played.
- During program play or random play, you can search-forward/backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.
- Do not use CDs with poorly attached labels or stickers. Adhesive protruding from underneath stickers or left over from peeled off stickers can cause your system to malfunction.
- Do not use irregular shape CDs. A

Playing CD TEXT discs

CD TEXT discs have text information recorded onto them (e.g. the name of the album and artist, messages, etc.).
This unit is able to display this text as you enjoy the CD.
Playback is the same as for normal audio CDs.

To switch between the text display and the normal display:
Press [CD TEXT].
The displays switch each time the button is pressed.

To scroll the text:
Press [SCROLL].
After displaying "SCROLL ON", the CD (or track) title, artists name and other information scrolls continuously across the screen.

To cancel:
Press [SCROLL]. "SCROLL OFF" is displayed.

Note
The text content differs from CD to CD.

4 Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

4.1. Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No. 5 (GND) and No. 4 (LD) pins on the flexible board is shorted with a solder build-up to prevent damage to the laser diode. (As shown in Fig. 1.)

   To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted. (As shown in Fig. 1.)

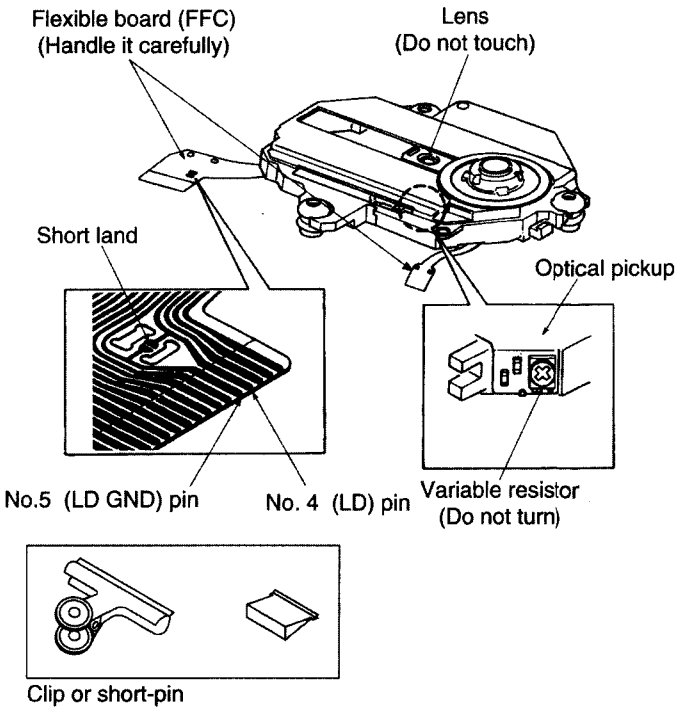


Fig. 1

4.2. Grounding for electrostatic breakdown prevention

1. Human body grounding

   Use the anti-static wrist strap to discharge the static electricity from your body. (As shown in Fig. 2.)
2. Work table grounding

   Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

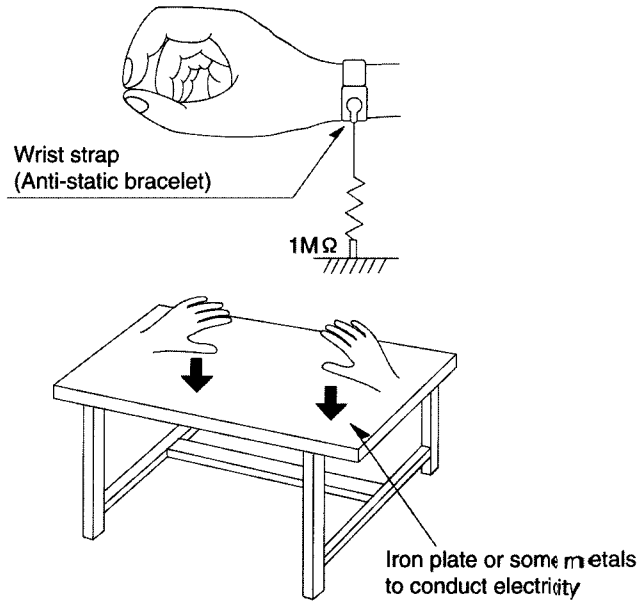


Fig. 2

5 Operation Checks and Component Replacement Procedures

NOTE **1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**

2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

3. Select item from the following index when checks or replacement are required.

• Contents

■ Checking Procedures for each P.C.B.

1. Checking for the CD servo P.C.B..
2. Checking for the main P.C.B..

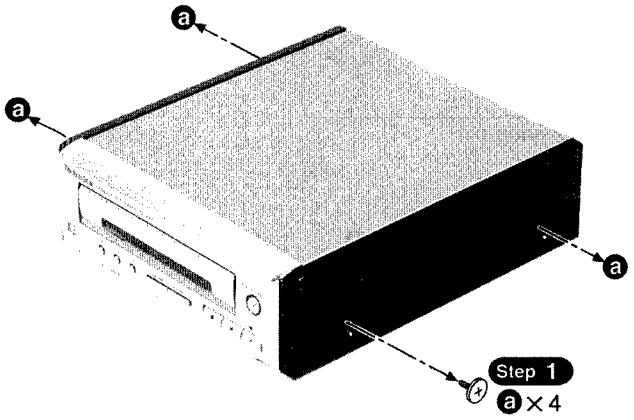
■ Main Component Replacement Procedures

1. Replacement for the traverse deck ass'y.
2. Replacement for the belt, loading motor ass'y and loading switch.

■ Lead wire and flat cable arrangement

■ Checking Procedures for each P.C.B.

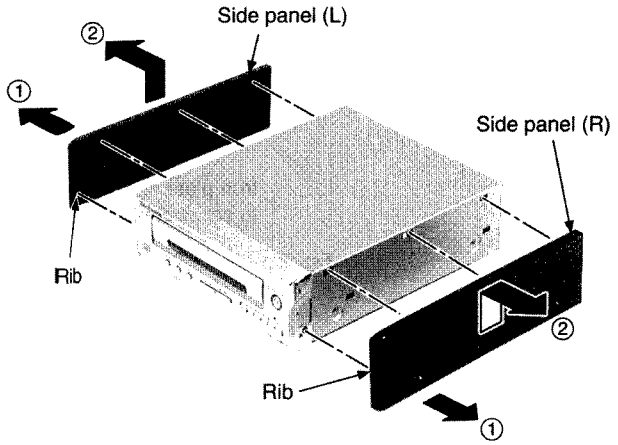
1. Checking for the CD servo P.C.B.



Step 2

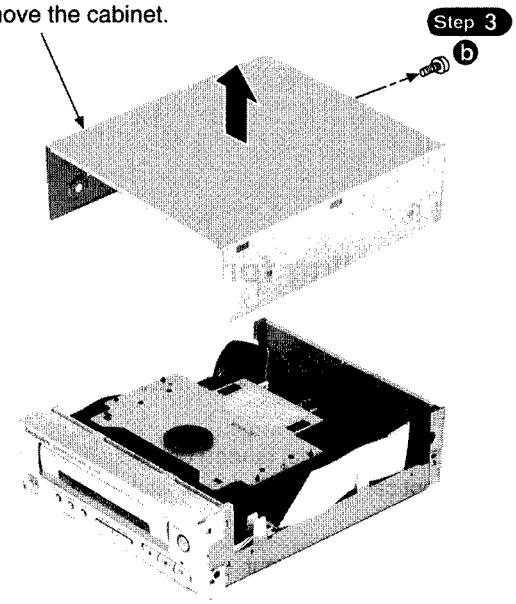
Remove the side panel (L), (R).

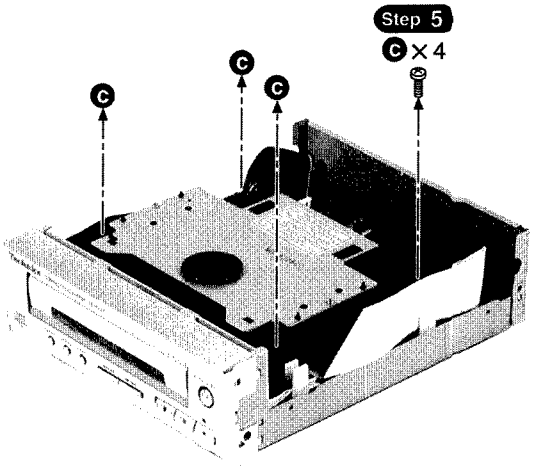
(Spread the lower part of the side panels in the direction of arrow ① to release the ribs, and then lift to remove the side panels in the direction of arrow ②.)



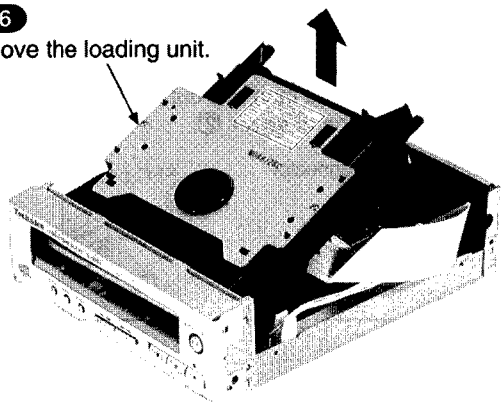
Step 4

Remove the cabinet.

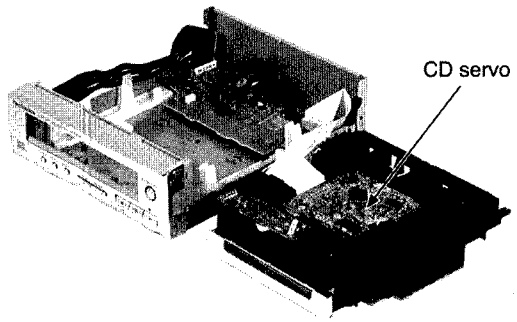




Step 6
Remove the loading unit.

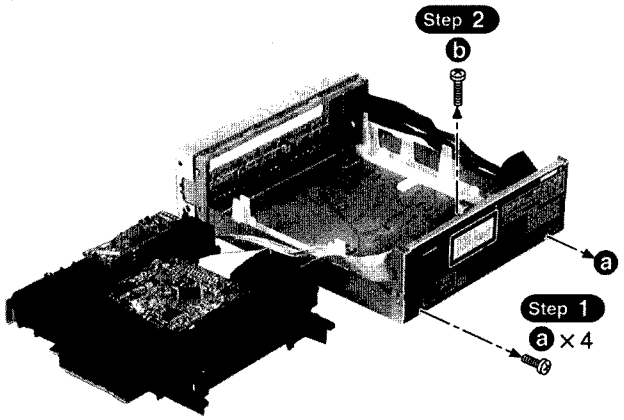


· **Check the CD servo P.C.B. as shown below.**



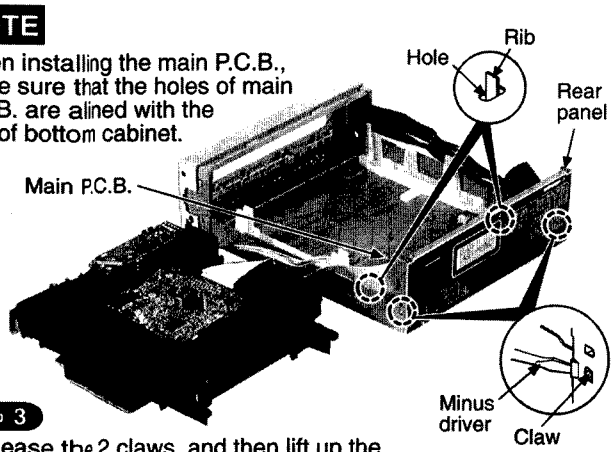
2. Checking for the main P.C.B.

· Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..



NOTE

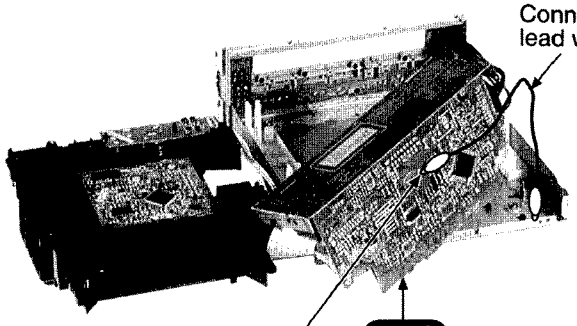
When installing the main P.C.B., make sure that the holes of main P.C.B. are alined with the ribs of bottom cabinet.



Step 3
Release the 2 claws, and then lift up the rear panel and main P.C.B. to remove.

· **Check the main P.C.B. as shown below.**

Step 5
Connect the lead wire.



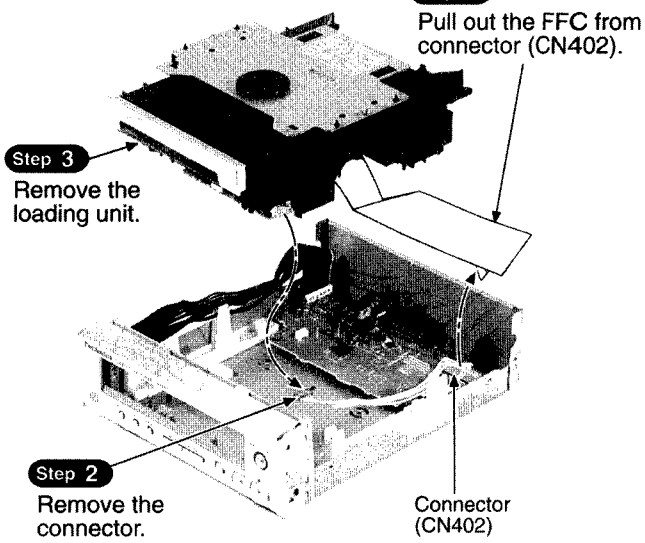
Raise the main P.C.B.

■ Main Component Replacement Procedures

1. Replacement for the traverse deck ass'y

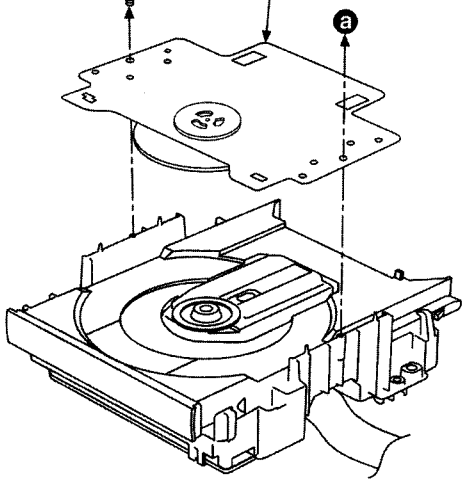
· Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..

Step 1
Pull out the FFC from connector (CN402).



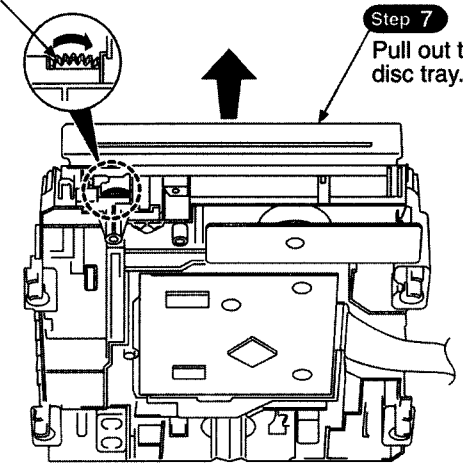
Step 4
a × 2

Step 5
Remove the clamper ass'y.

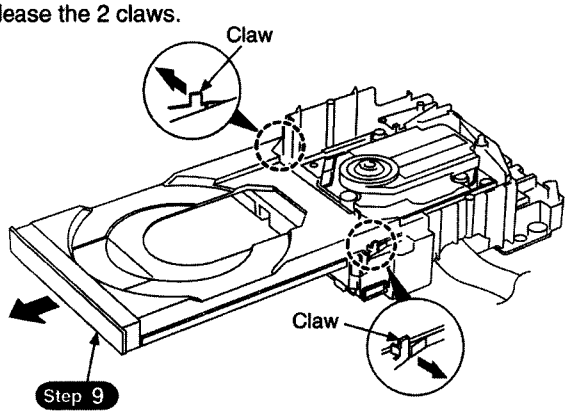


Step 6
Rotate the gear.

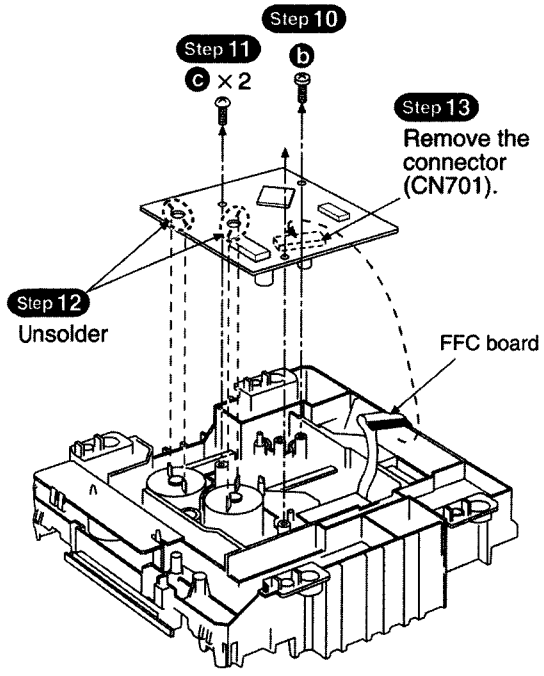
Step 7
Pull out the disc tray.



Step 8
Release the 2 claws.

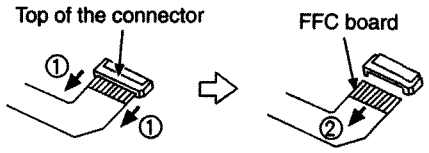


Step 9
Pull out the disc tray.



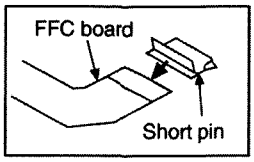
■ Removal of the FFC board

※ Push the top of the connector in the direction of arrow ①, and then pull out the FFC board in the direction of arrow ②.

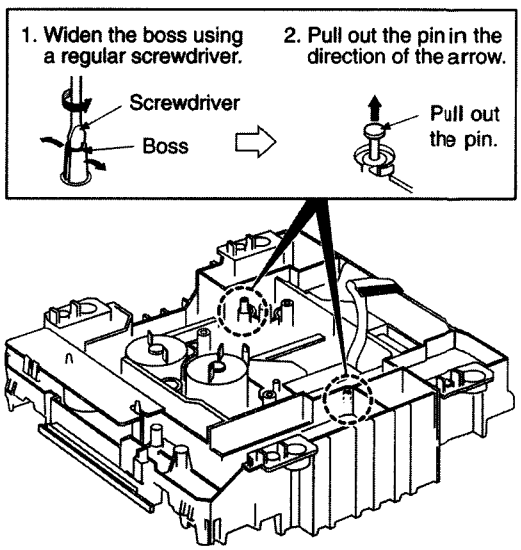


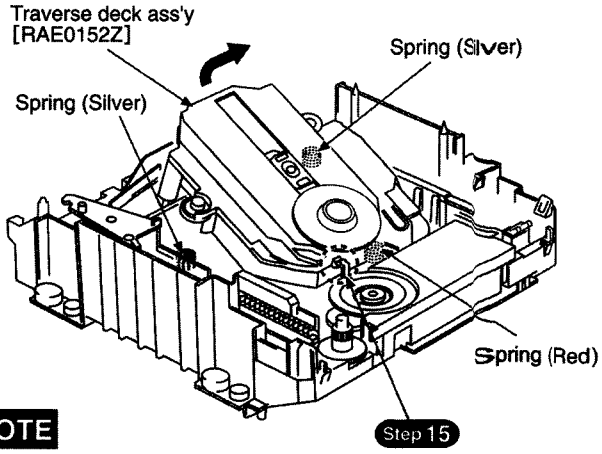
NOTE

Insert a short pin into the traverse unit FFC board.
(Refer to "Handling Precautions for Traverse Deck".)



Step 14


1. Widen the boss using a regular screwdriver.
2. Pull out the pin in the direction of the arrow.
Screwdriver
Boss
Pull out the pin.



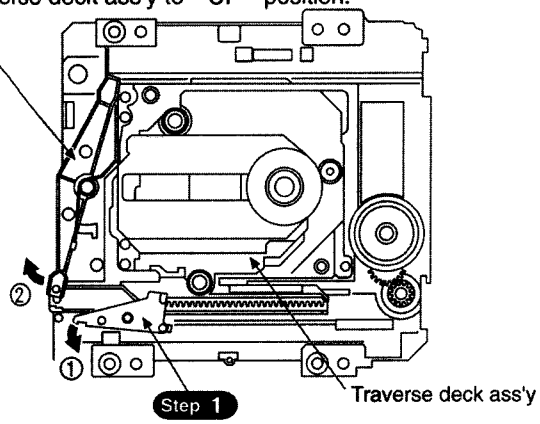
Step 15
Remove the claw.

NOTE

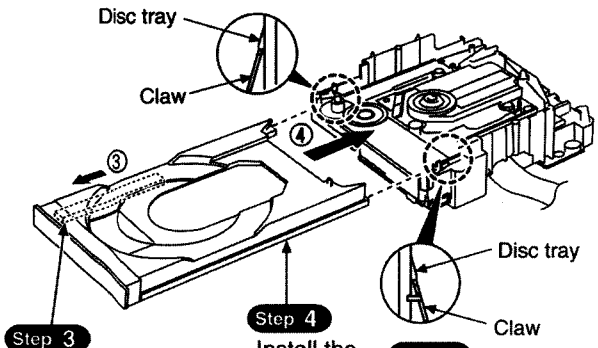
Be careful not to lose the 3 springs because those will also be removed on removal of the traverse deck ass'y.

Installation of the disc tray after replacement

Step 2
Operate the conversion lever, and then locate the traverse deck ass'y to "UP" position.



Step 1
Release the lock lever.

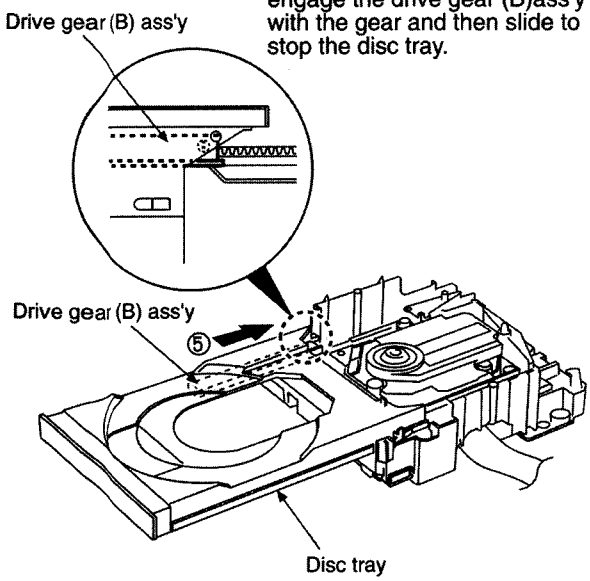


Step 3
Move the drive ruck ass'y in the direction of arrow ③.

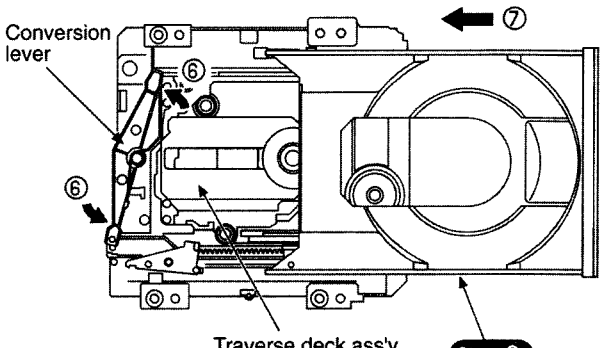
Step 4
Install the disc tray.

Step 5
Latch the claw to the disc tray.

Step 6
Supporting the disc tray manually, engage the drive gear (B)ass'y with the gear and then slide to stop the disc tray.

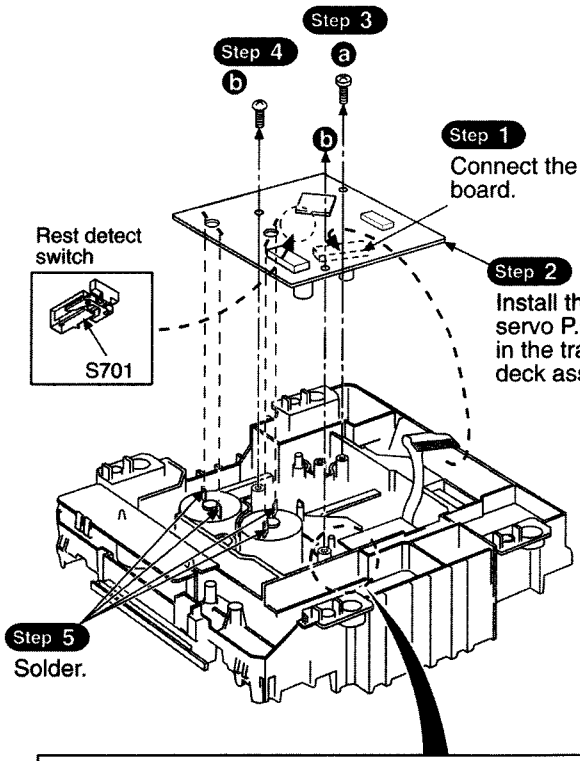


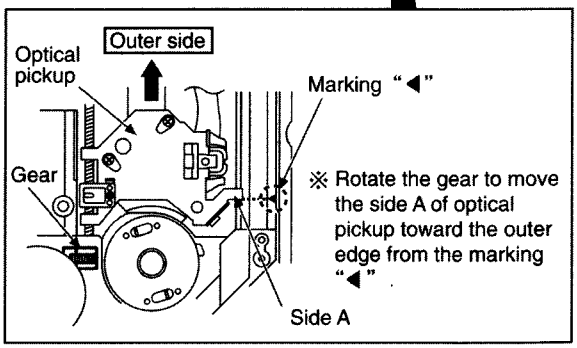
Step 7
Operate the conversion lever, and then locate the traverse deck to "DOWN" position.



Step 8
Press the disc tray.

Installation of the CD servo P.C.B. after replacement

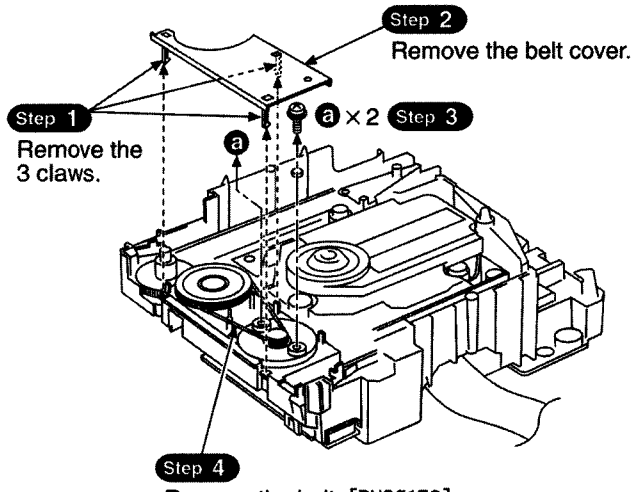


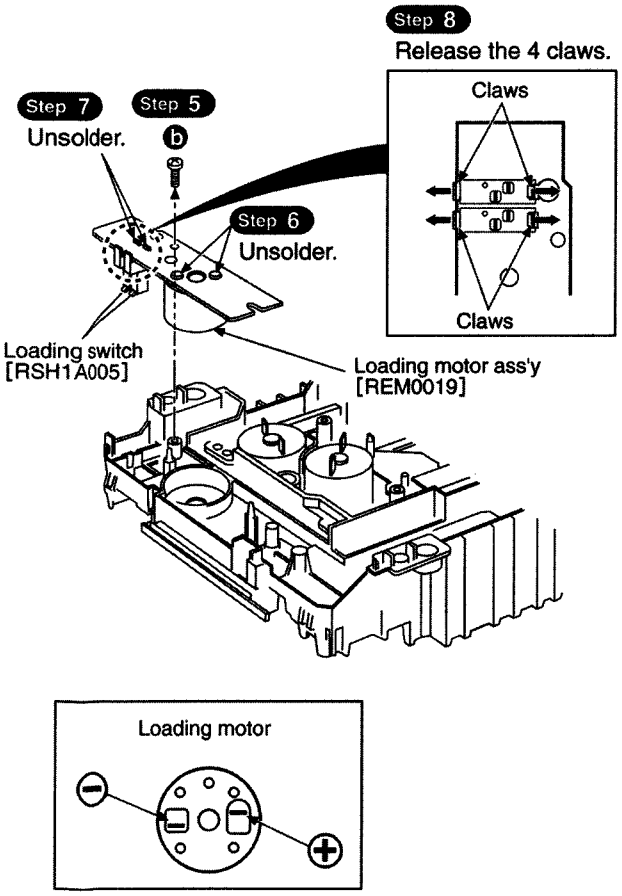

Outer side
Optical pickup
Marking "◀"
Gear
※ Rotate the gear to move the side A of optical pickup toward the outer edge from the marking "◀".
Side A

NOTE
Before installing the CD servo P.C.B., move the optical pickup toward the outer edge from the mark "◀".
[Otherwise, the rest detect switch (S701) mounted on the CD servo P.C.B. may be damaged.]

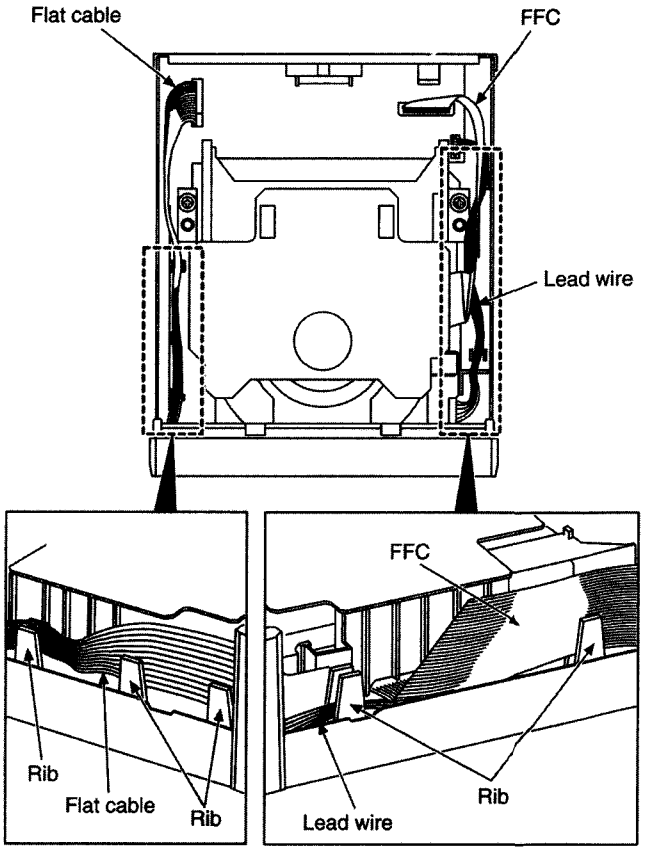
2. Replacement for the belt, loading motor ass'y and loading switch.

- Follow the Step 1 ~ Step 6 of the item 1 in checking procedure for each P.C.B..
- Follow the Step 1 ~ Step 9 of the item 1 in main component replacement procedures.





■ Lead wire and flat cable arrangement



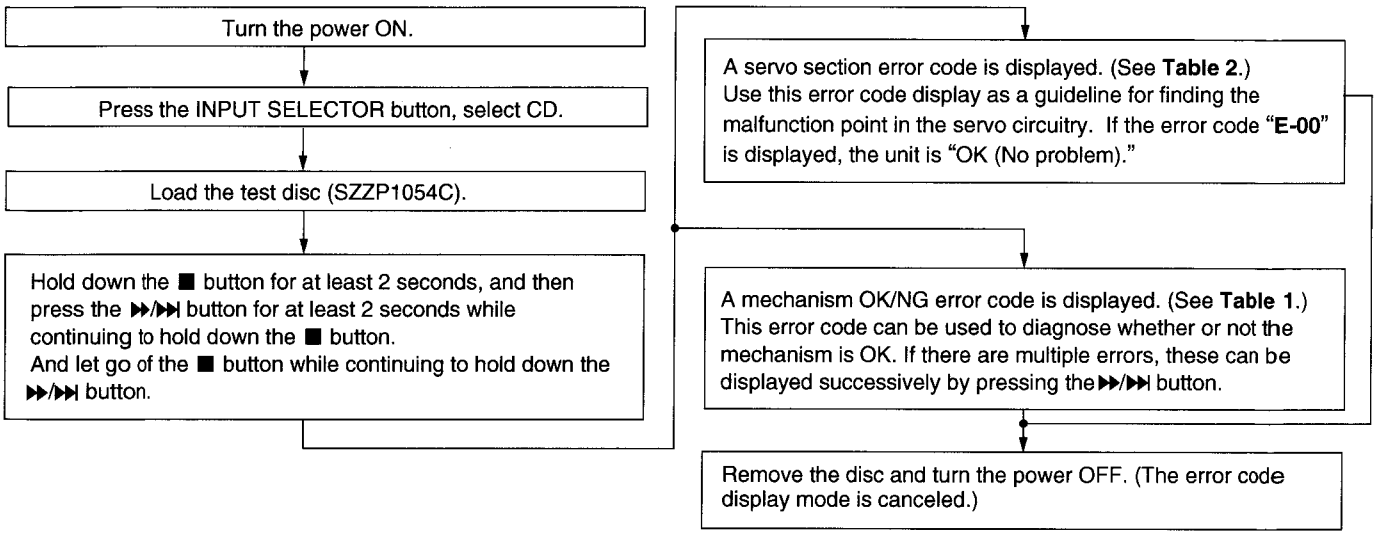
6 Error Code Display and Servo Adjustment Function

This unit has an error code display function, so that if the unit operates incorrectly, the fault is displayed using an error code on the FL display of the tuner (ST-HD301/501). It also has a servo adjustment function for displaying the status of servo system functions (focus, tracking, CLV) on the tuner's FL display.The system control IC and FL display are part of the tuner so make sure the system has been connected properly before using these functions. (This unit can be operated independently, although the error code display and servo adjustment functions cannot be used.)Use these two functions for guidance during fault diagnosis and repair.

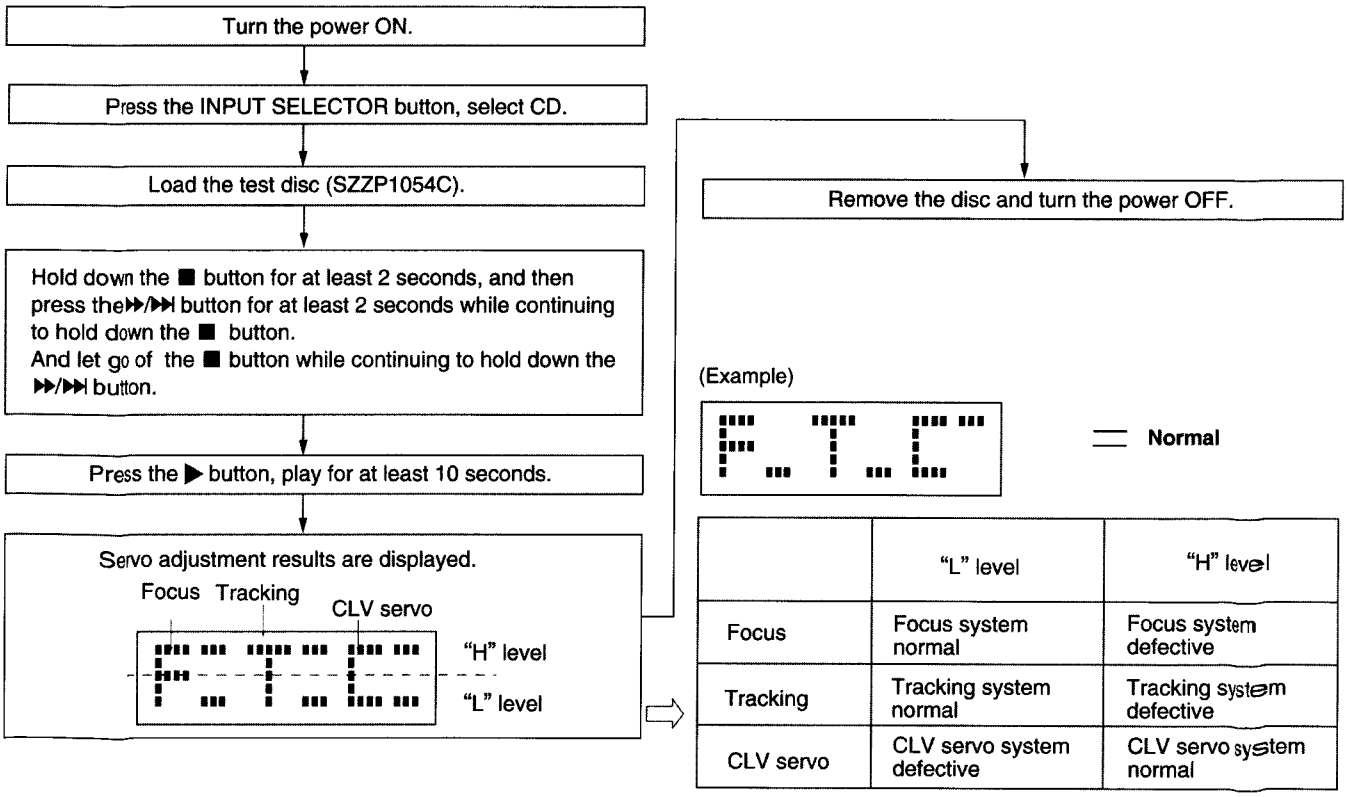
Note:

Check beforehand for scratching or soiling of the test disc (SZZP1054C), and soiling or other problems with the optical pickup lens.

6.1. Error code display procedure


Turn the power ON.
Press the INPUT SELECTOR button, select CD.
Load the test disc (SZZP1054C).
Hold down the ■ button for at least 2 seconds, and then press the ▶▶/▶▶I button for at least 2 seconds while continuing to hold down the ■ button.
And let go of the ■ button while continuing to hold down the ▶▶/▶▶I button.
A servo section error code is displayed. (See Table 2.)
Use this error code display as a guideline for finding the malfunction point in the servo circuitry. If the error code "E-00" is displayed, the unit is "OK (No problem)."
A mechanism OK/NG error code is displayed. (See Table 1.)
This error code can be used to diagnose whether or not the mechanism is OK. If there are multiple errors, these can be displayed successively by pressing the ▶▶/▶▶I button.
Remove the disc and turn the power OFF. (The error code display mode is canceled.)

6.2. Servo adjustment procedure

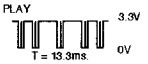
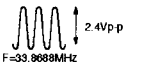
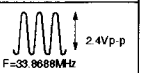
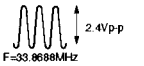
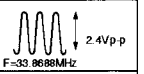
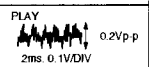
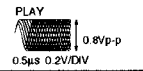
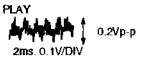
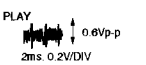

Turn the power ON.
Press the INPUT SELECTOR button, select CD.
Load the test disc (SZZP1054C).
Hold down the ■ button for at least 2 seconds, and then press the▶▶/▶▶I button for at least 2 seconds while continuing to hold down the ■ button.
And let go of the ■ button while continuing to hold down the ▶▶/▶▶I button.
Press the ▶ button, play for at least 10 seconds.
Servo adjustment results are displayed.
Focus Tracking
CLV servo
"H" level
"L" level
Remove the disc and turn the power OFF.
(Example)
Normal

	"L" level	"H" level
Focus	Focus system normal	Focus system defective
Tracking	Tracking system normal	Tracking system defective
CLV servo	CLV servo system defective	CLV servo system normal

6.3. Table 1

FL display	Symptom	Cause
H - 15	When CD tray opens, it closes by itself.	Disc tray "Open" detection sensor fault.
H - 16	When CD tray closes, it opens by itself.	Disc tray "Closed" detection sensor fault.
F - 15	Does not play, even when CD play button is pressed.	Pickup rest position detection switch fault.
F - 26	Does not move even when ▶(PLAY) is pressed.	System control or servo processor IC fault.

6.4. Table 2

FL error code display	Symptom	Probable cause	Signal to check		Normal voltage and waveform values	
			Signal name	Location	PLAY	STOP
E-01	Focus and tracking offset adjustments not completed in the specified time period.	1. Clocks X1, power supply V_{DD} and reset/RST, all on IC702. 2. MDATA, MCLK, and MLD signal to/from IC403.	IC702 8 pin	MDATA		0V
			IC702 7 pin	MCLK		3.4V
			IC702 9 pin	MLD		
			IC702 18 pin	/RST	3.4V	3.4V
			IC702 58 pin	X1 IN		
			IC702 59 pin	X2 OUT		
E-02 E-04 E-06 E-0A E-0C E-0E	Disc play unstable.	1. Scratches or contaminants on disc surface. 2. Focus and tracking servo circuits. (check waveforms, voltages, and part values.) 3. Spindle driver circuit. 4. Optical pickup.	IC702 32 pin	FE		1.7V
			IC702 33 pin	TE		1.7V
			IC702 28 pin	FOD	1.7V	1.7V
			IC702 27 pin	TRD	1.7V	1.7V
			IC702 38 pin	/RFDET	0V	3.4V
			TJ 701	ARF		1.0 V
			IC702 17 pin	STAT	3.3V	0V
E-08 E-0A	Focus or Tracking gain adjustment not conpleted in the specified time period.	1. Scratches or contaminants on disc surface. 2. Focus and Tracking servo circuit. (check waveforms, voltages, and part values.) 3. Optical pickup.	IC702 32 pin	FE		1.7V
			IC702 33 pin	TE		1.7V
			IC702 36 pin	OFT	0V	0V

7 Mesurements and Adjustments

Cautions:

- **It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.) With the unit turned "ON" , laser radiation is emitted from the pickup lens.**
- **Avoid exposure to the laser beam, especially when performing adjustments.**

This unit SL-HD301/501 is designed to operate on power supplied from the Amplifier SE-HD301/501 through the Tuner ST-HD301/501.When connecting the unit to other system components, do not connect to the Amplifier SE-HD301/501 directly. Be sure to connect this unit through the Tuner ST-HD301/501.When operating the unit SL-HD301/501 alone for testing and servicing, without having power supplied from the Amplifier SE-HD301/501, use the following method.

7.1. Power Supply to This Unit alone

Apply 10V DC power to the section between JK401-5pin(10VDC)and JK401-6pin(D.GND). (As shown in Fig. 3.)

7.2. To Check Signals

Connect the oscilloscope or the speaker with built-in amplifier to the section between JK401-16pin[LINE OUT(Rch)] and JK401-17pin(A.GND) as well as the section between JK401-18pin[LINE OUT(Lch)] and JK401-17pin(A.GND) and check if the signals are outputting from this unit. (As shown in Fig. 3.)

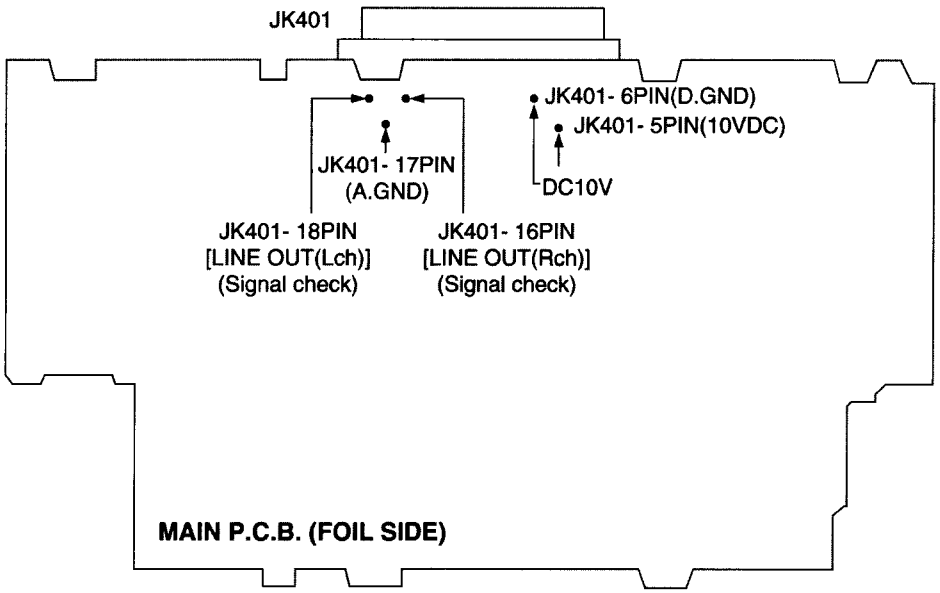
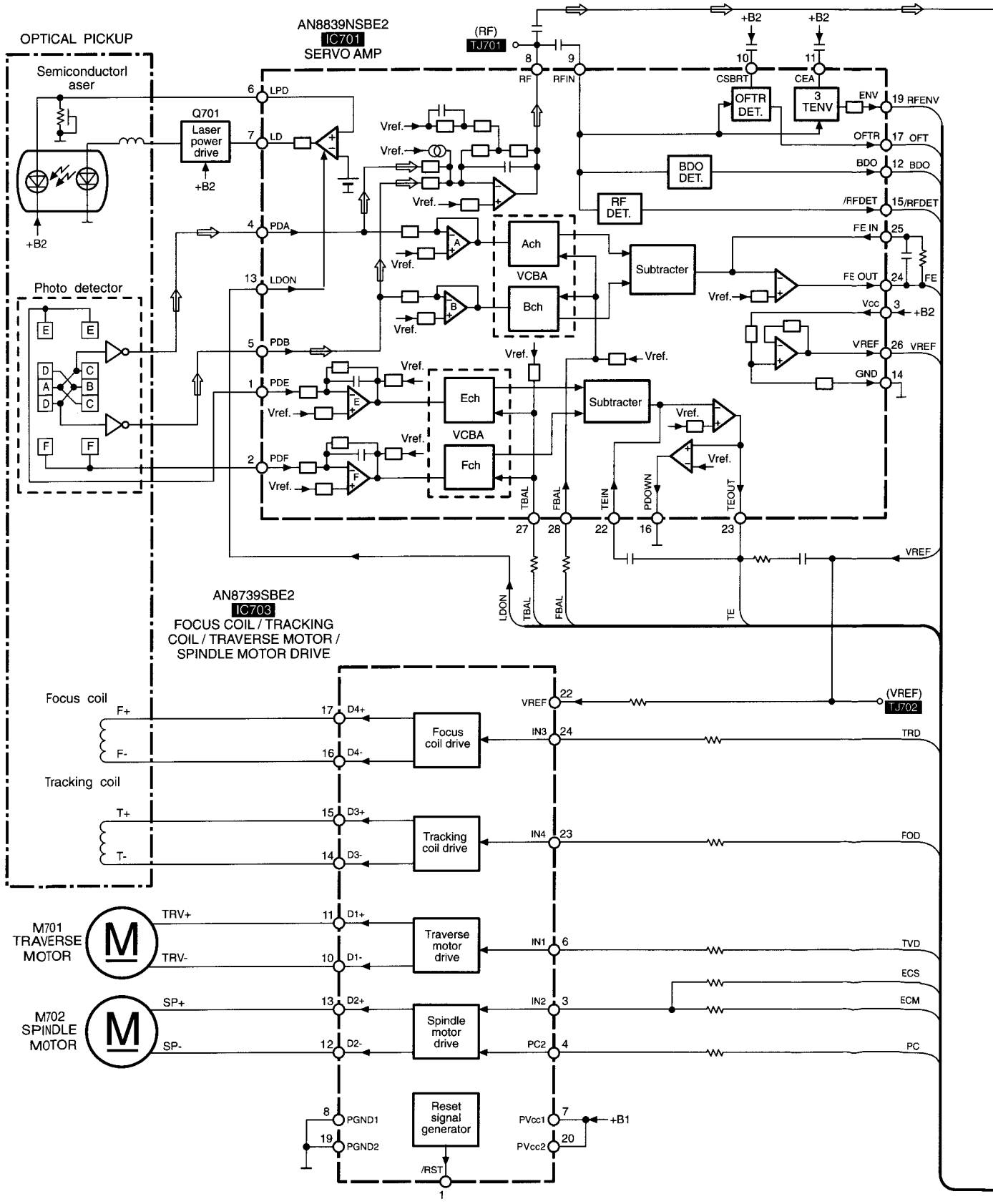
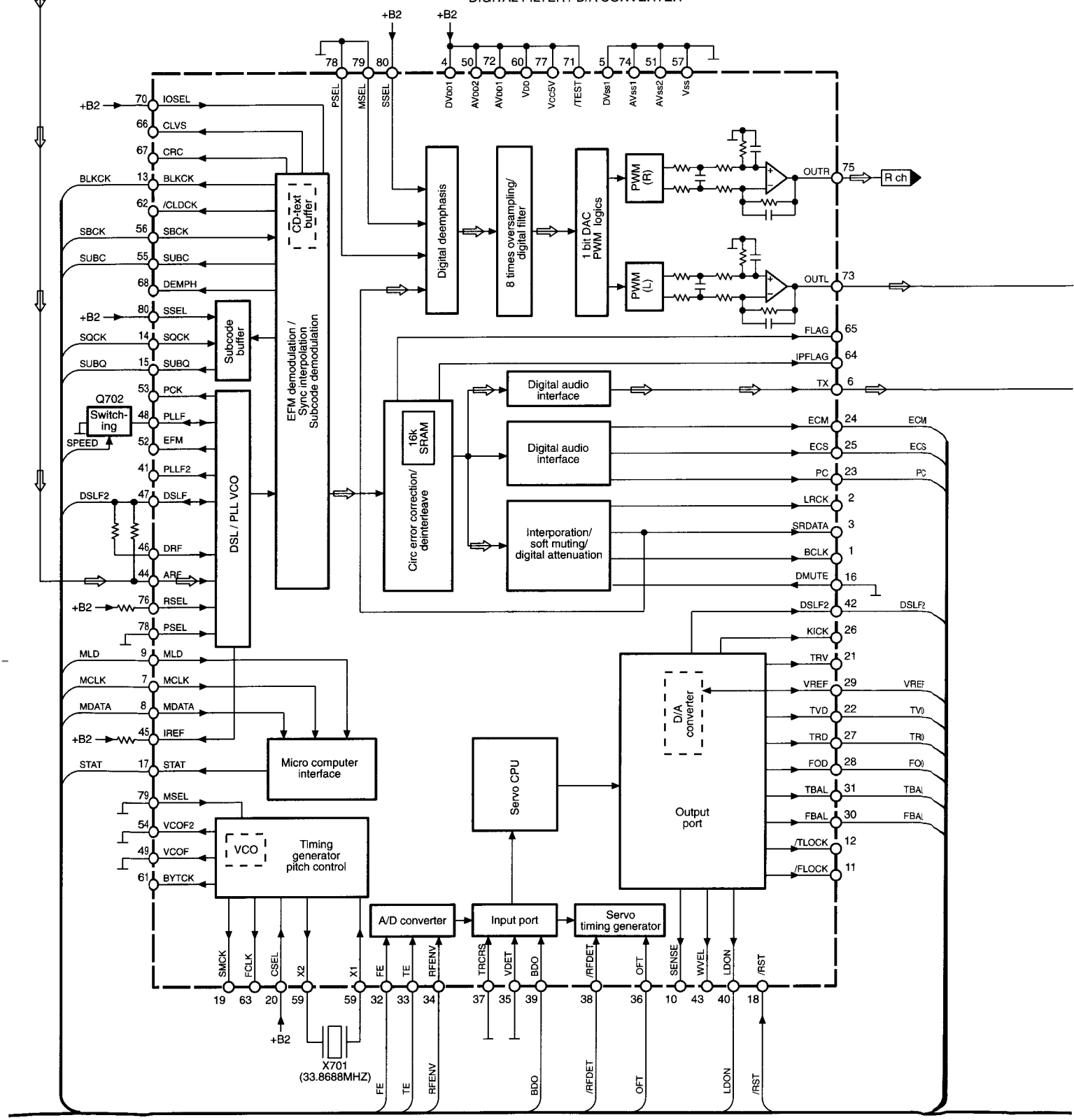


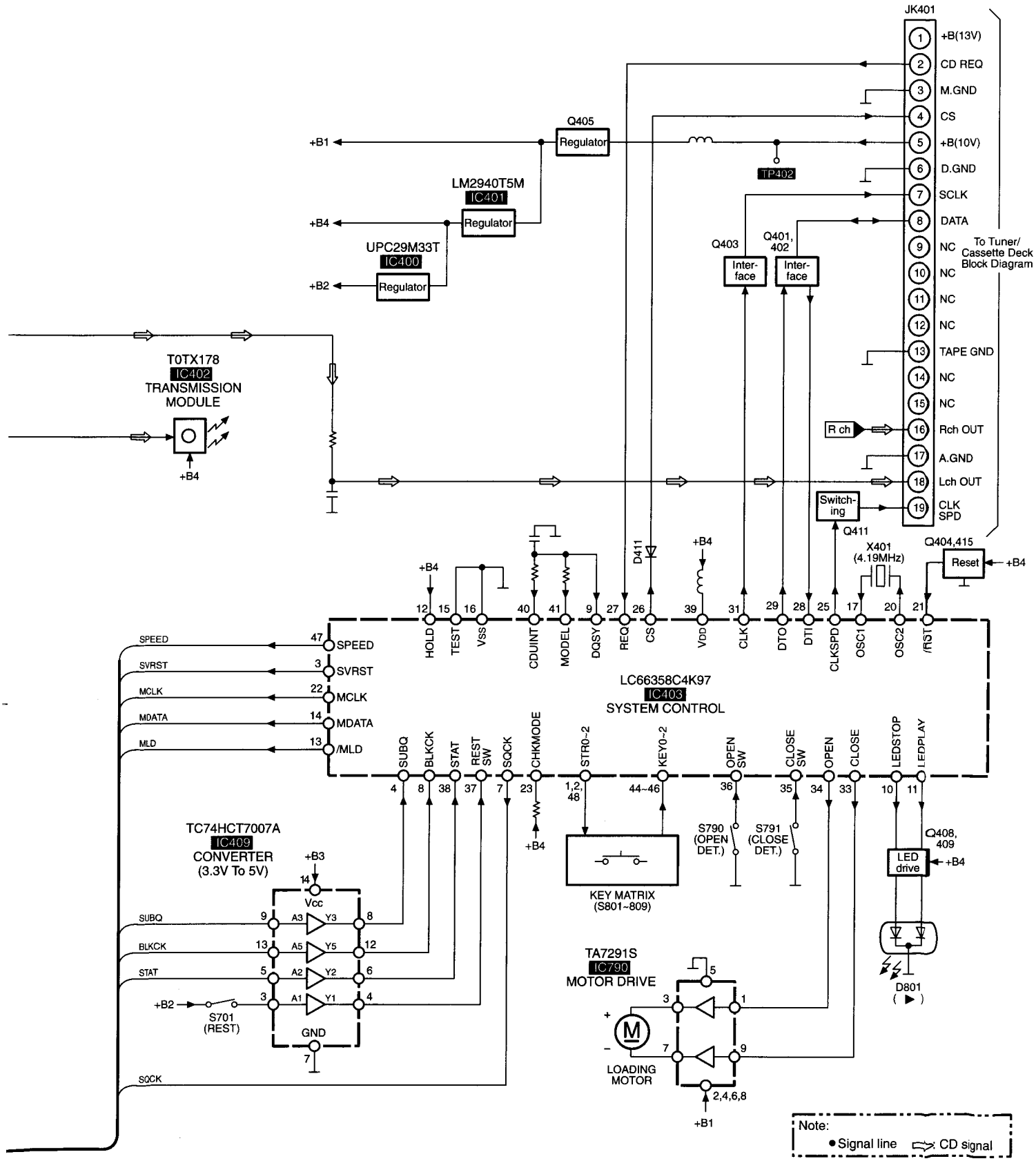
Fig. 3

8 Block Diagram



MN662790RSA
IC702
SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR
DIGITAL FILTER / D/A CONVERTER




JK401
+B(13V)
CD REQ
M.GND
CS
+B(10V)
D.GND
SCLK
DATA
NC
NC
NC
NC
TAPE GND
NC
NC
Rch OUT
A.GND
Lch OUT
CLK SPD
To Tuner/ Cassette Deck Block Diagram
Q405
Regulator
+B1
LM2940T5M
IC401
Regulator
+B4
UPC29M33T
IC400
Regulator
+B2
TP402
Q403
Inter-face
Q401, 402
Inter-face
R ch
Switch-ing
Q411
D411
X401 (4.19MHz)
Q404,415
Reset
+B4
T0TX178
IC402
TRANSMISSION MODULE
+B4
HOLD
TEST
VSS
CDUINT
MODEL
DQSY
REQ
CS
VDD
CLK
DTO
DTI
CLKSPD
OSC1
OSC2
/RST
LC66358C4K97
IC403
SYSTEM CONTROL
SPEED
SVRST
MCLK
MDATA
/MLD
SUBQ
BLKCK
STAT
REST SW
SQCK
CHKMODE
STR0~2
KEY0~2
OPEN SW
CLOSE SW
OPEN
CLOSE
LEDSTOP
LEDPLAY
TC74HCT7007A
IC409
CONVERTER (3.3V To 5V)
+B3
Vcc
GND
S701 (REST)
S790 (OPEN DET.)
S791 (CLOSE DET.)
KEY MATRIX (S801~809)
Q408, 409
LED drive
+B4
D801
TA7291S
IC790
MOTOR DRIVE
LOADING MOTOR
2,4,6,8
+B1
Note:
• Signal line
CD signal

9 Schematic Diagram Notes

9.1. Scheamtic Diagram Notes

This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S701 : Rest position detect switch.
- S790 : CD tray open switch.
- S791 : CD tray close switch.
- S801 : Stop (■) switch.
- S802 : Play (▶) switch.
- S803 : Pause (❚❚) switch.
- S804 : CD tray open/close (▲OPEN/CLOSE) switch.
- S805 : F. skip/ search (▶▶ / ▶▶|) switch
- S806 : R. skip/ search (|◀◀ / ◀◀) switch.
- S807 : CD text select (CD TEXT) switch.
- S808 : AI edit (AI EDIT) switch.
- S809 : Scroll (SCROLL) switch.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark: CD STOP

( ): CD play [1kHz, L+R, 0dB]

Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

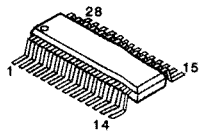
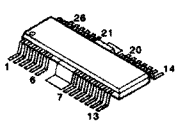
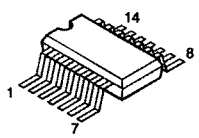
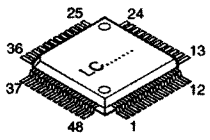
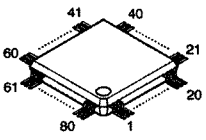
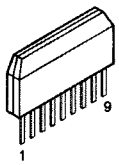
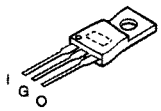
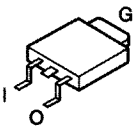
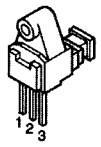
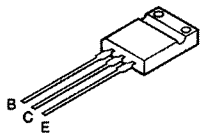
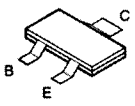
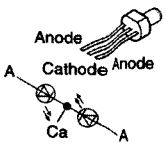
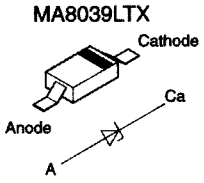
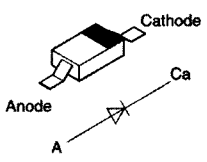
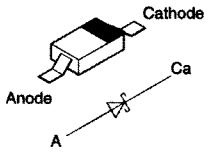
Do not touch the legs of IC or LSI with the fingers directly.

Voltage and signal line

: Positive voltage line

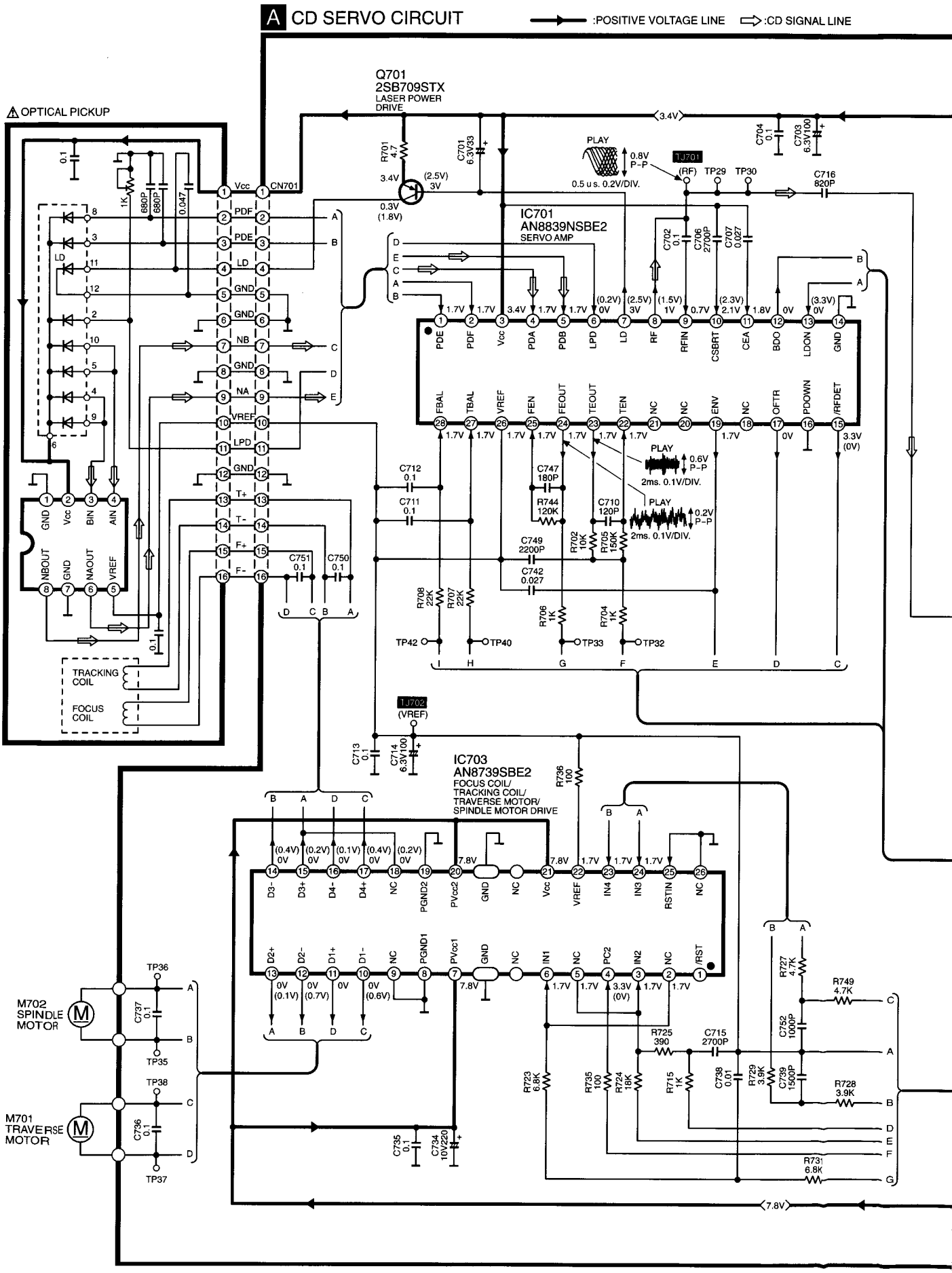
: CD signal line

9.2. Type Illustration of IC's, Transistors and Diodes

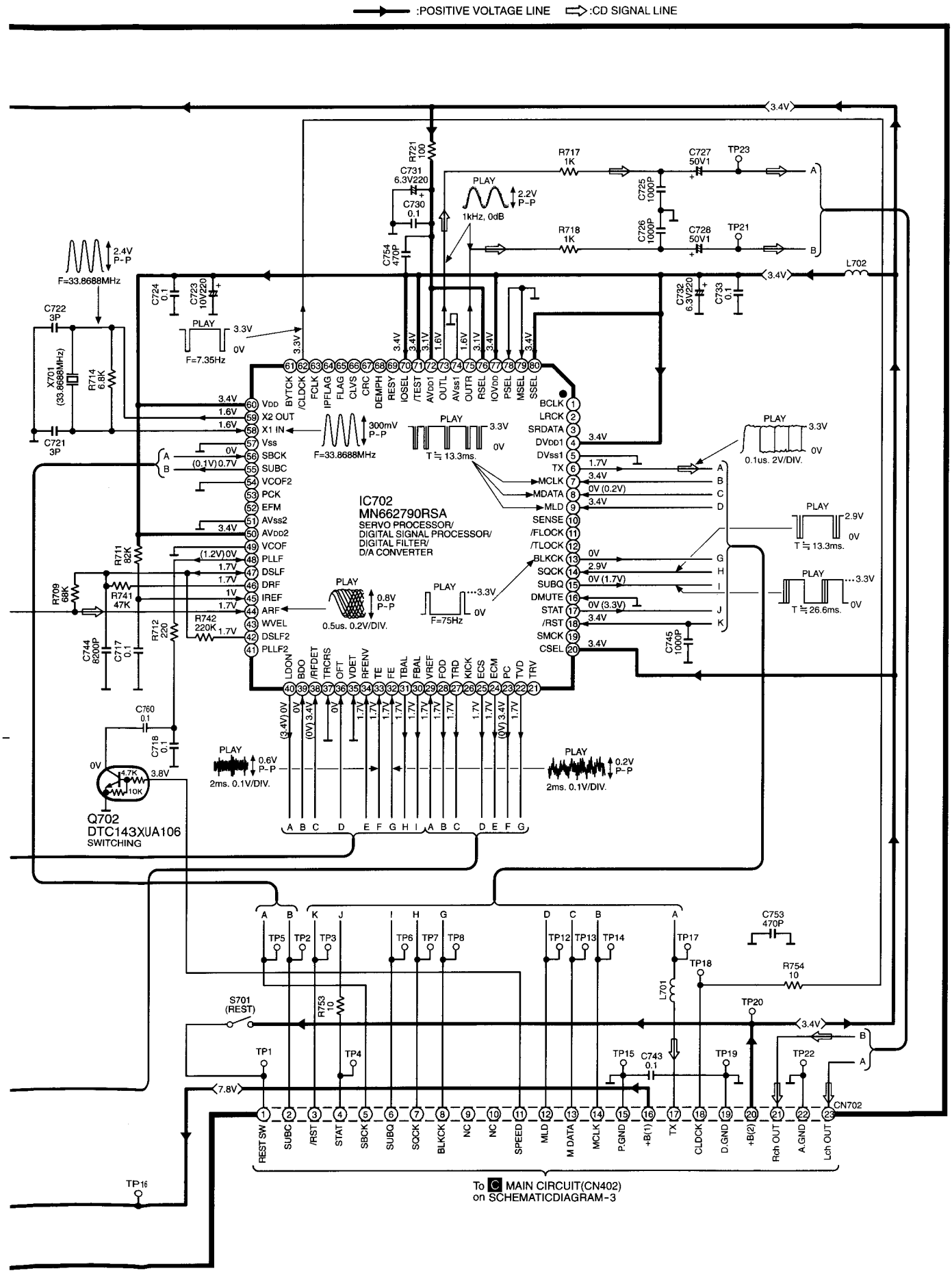
AN8839NSBE2 	AN8739SBE2 	TC74HCT7007A 	LC66358C4K97 	MN662790RSA 	TA7291S 
LM2940T5M 	UPC29M33T 	T0TX178 	2SD2137PQTA 		2SB709STX 2SC4081STX DTA143XUT106 DTC114YUT106 DTC143EUT106 DTC143XUA106
SPR-305MDTF 	MA8082MTX MA8039LTX 	MA111TX 	MA728TX 		

10 Schematic Diagram

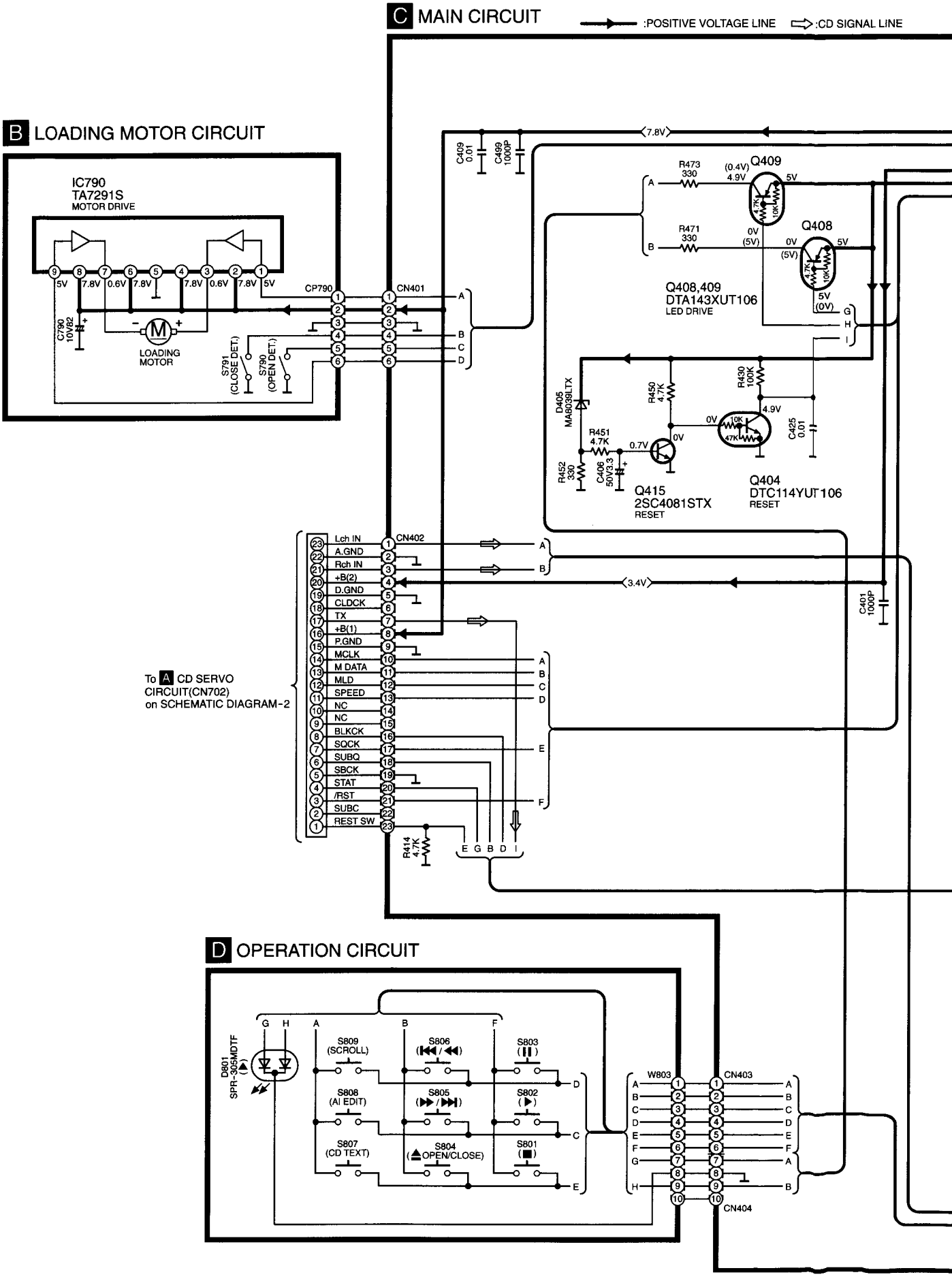
SCHEMATIC DIAGRAM-1



SCHEMATIC DIAGRAM-2

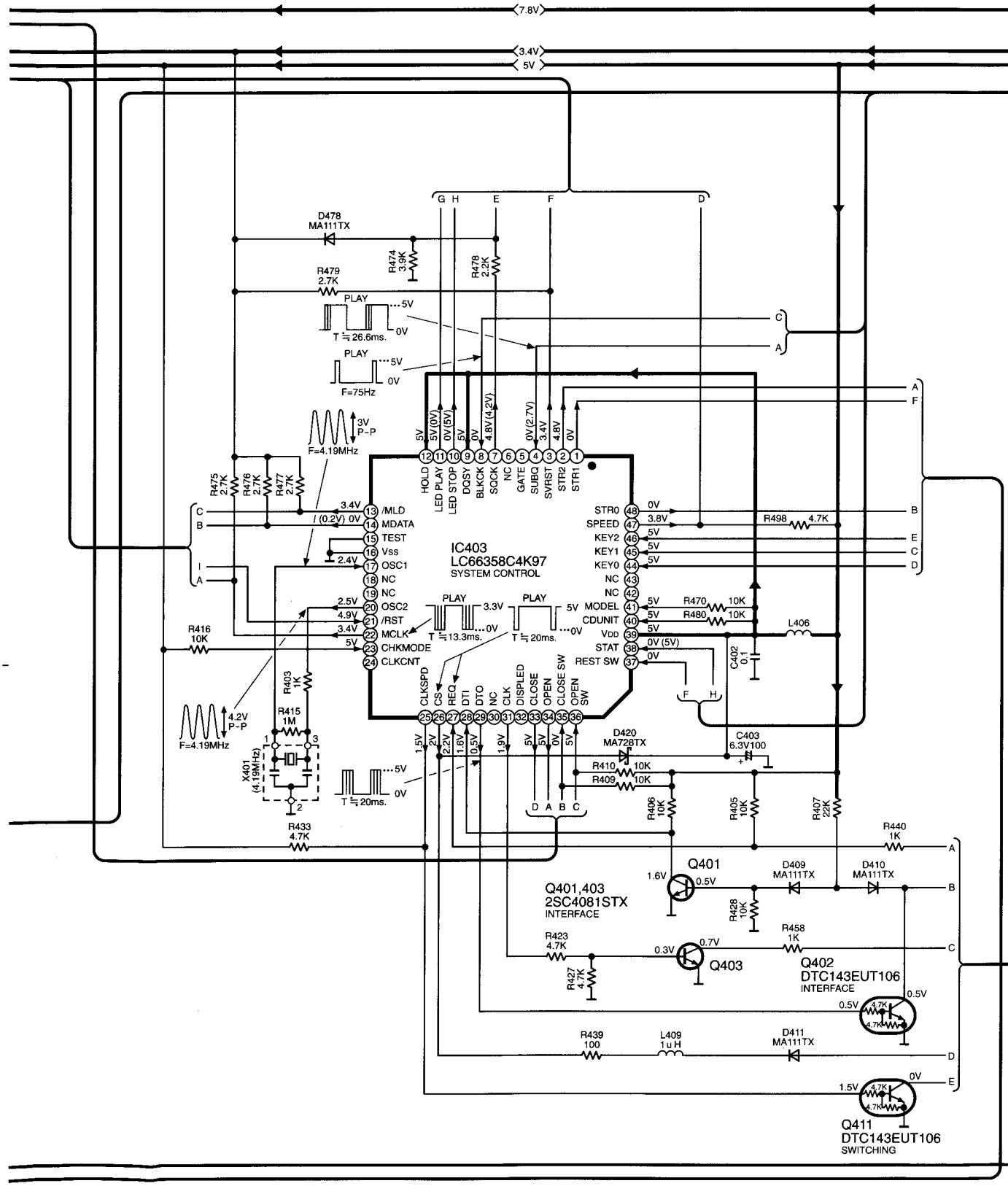


SCHEMATIC DIAGRAM-3



SCHEMATIC DIAGRAM-4

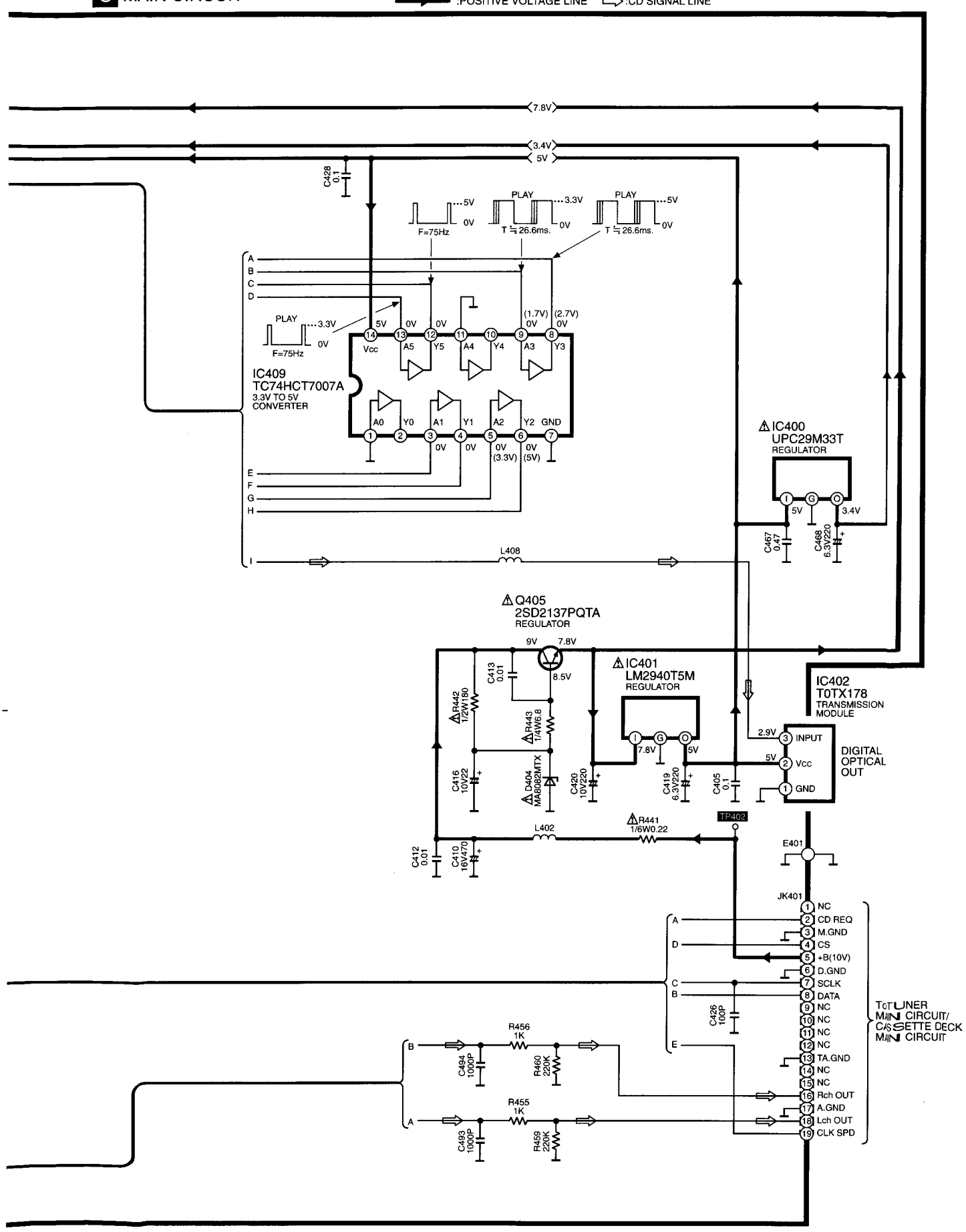
:POSITIVE VOLTAGE LINE



SCHEMATIC DIAGRAM-5

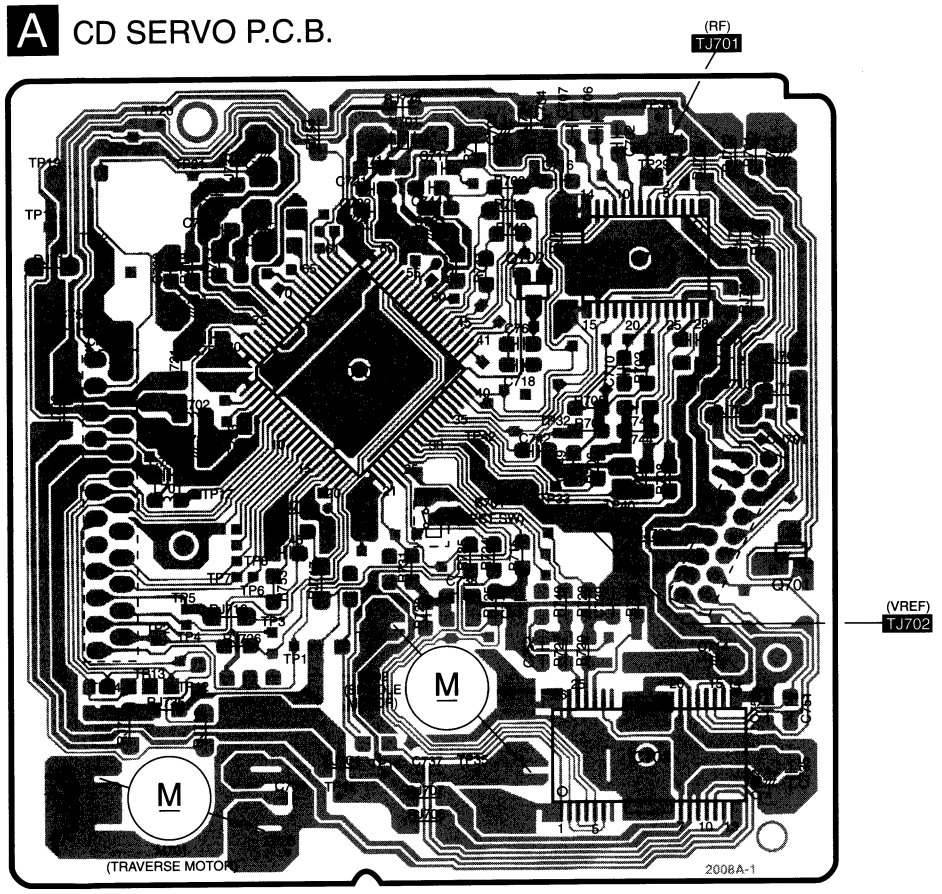
C MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :CD SIGNAL LINE



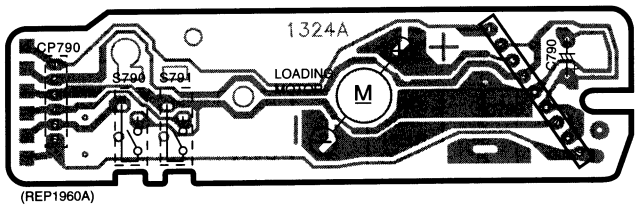
11 Printed Circuit Board Diagram

A CD SERVO P.C.B.



(REP2772A-N)

B LOADING MOTOR P.C.B.

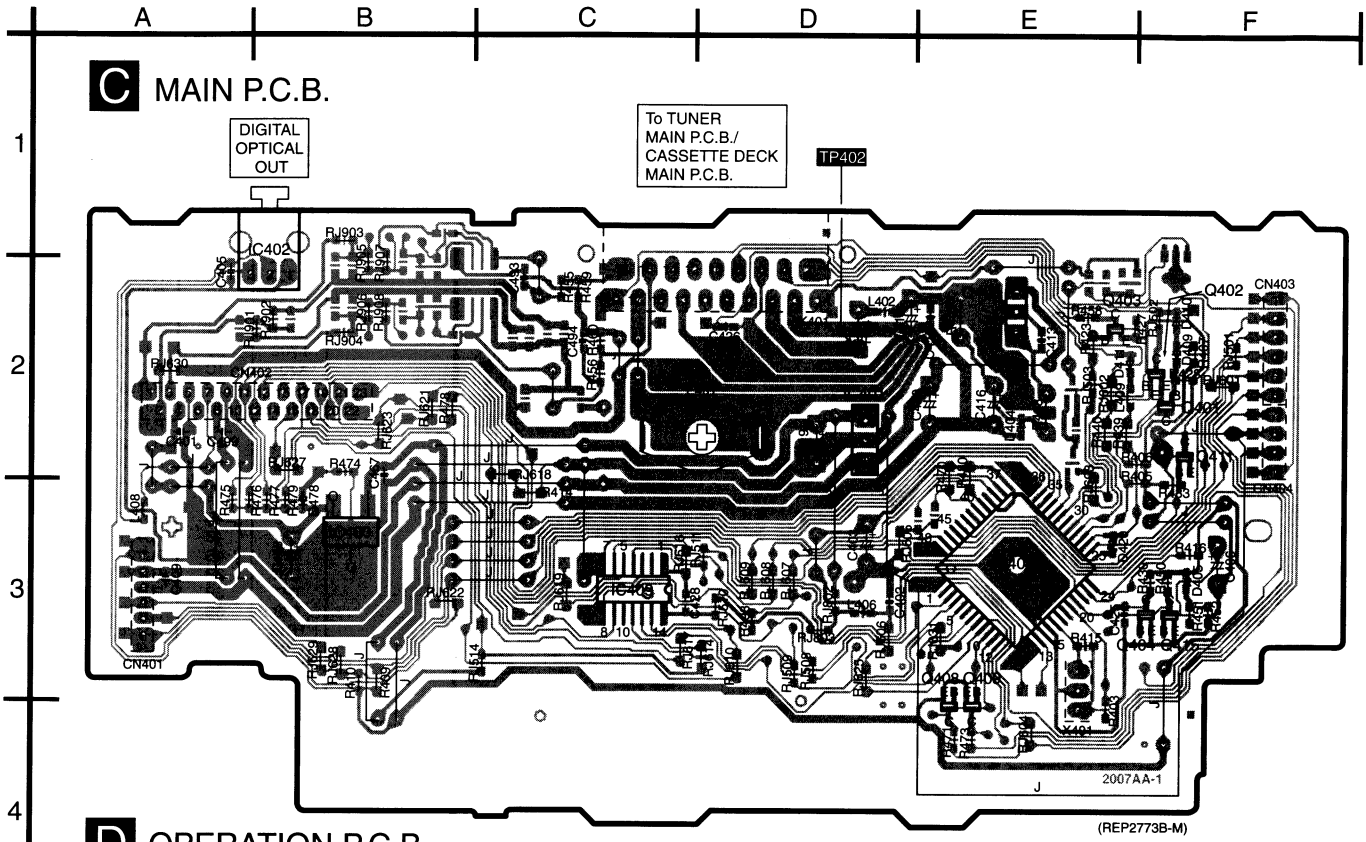


(REP1960A)

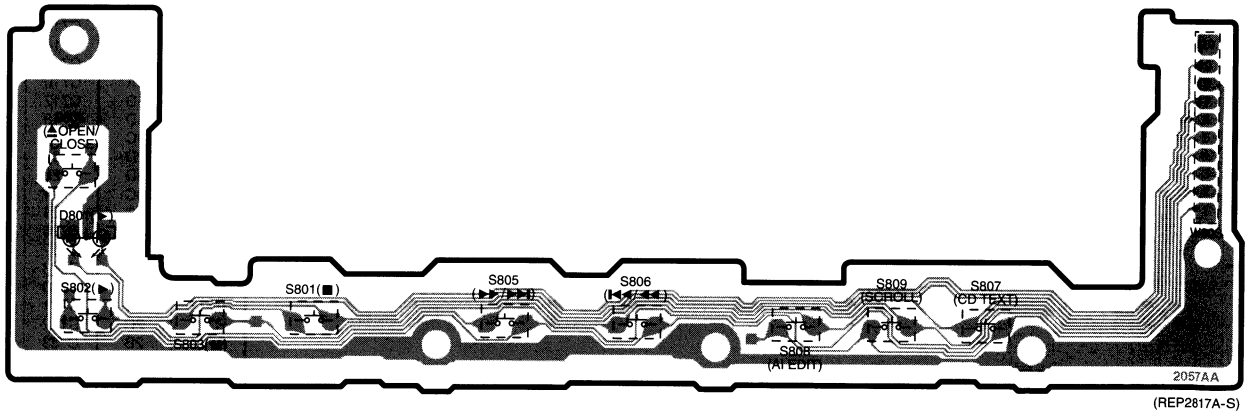
■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.
A CD SERVO P.C.B.			
IC701	2D	R754	1B
IC702	3B	RJ701	2C
IC703	4D	RJ702	3D
Q701	3D	RJ703	3D
Q702	2C	RJ704	4B
L701	3A	RJ705	4A
L702	3B	RJ706	3A
X701	1C	RJ707	4C
S701	3C	RJ708	5C
CN701	3D	RJ709	2D
CN702	3A	RJ710	2D
M701	4A	RJ712	3D
M702	4C	RJ713	4B
TP1	4B	RJ714	2A
TP2	4A	RJ716	4B
TP3	4B	RJ717	3B
TP4	4B	RJ721	2C
TP5	4B	RJ722	2D
TP6	3B	RJ724	1C
TP7	3B	RJ726	4B
TP8	3B	RJ727	2D
TP12	4A	RJ728	3D
TP13	4A	RJ731	2B
TP14	4A	RJ732	3B
TP15	4B	RJ734	1C
TP16	4B	RJ735	4A
TP17	3B	RJ750	2D
TP18	2A	C701	2D
TP19	2A	C702	2D
TP20	1A	C703	1C
TP21	2B	C704	1C
TP22	2A	C706	1C
TP23	1A	C707	1C
TP29	2D	C710	3D
TP30	1D	C711	2D
TP32	3C	C712	3D
TP33	3C	C713	3D
TP35	4C	C714	4D
TP36	4B	C715	4C
TP37	5A	C716	2C
TP38	5B	C717	2C
TP40	3D	C718	3C
TP42	3C	C721	2B
R701	2D	C722	2B
R702	3D	C723	2C
R704	3C	C724	2B
R705	3C	C725	2B
R706	3C	C726	2B
R707	3D	C727	2B
R708	3D	C728	2B
R709	2C	C730	2A
R711	2C	C731	2B
R712	2C	C732	3B
R714	2B	C733	3B
R715	3C	C734	4D
R717	2B	C735	4D
R718	2B	C736	4B
R721	3B	C737	4C
R723	4C	C738	4C
R724	3C	C739	4C
R725	4C	C742	3C
R727	4C	C743	3A
R728	4C	C744	2C
R729	4C	C745	3B
R731	3C	C747	3D
R735	3C	C749	3C
R736	4D	C750	4D
R741	2C	C751	4D
R742	2C	C752	4C
R744	3D	C753	2A
R749	4C	C754	2B
R753	3B	C760	2C
B LOADING MOTOR P.C.B.			
IC790	7D	CP790	7B
S790	7B	C790	7D
S791	7B		

C MAIN P.C.B.



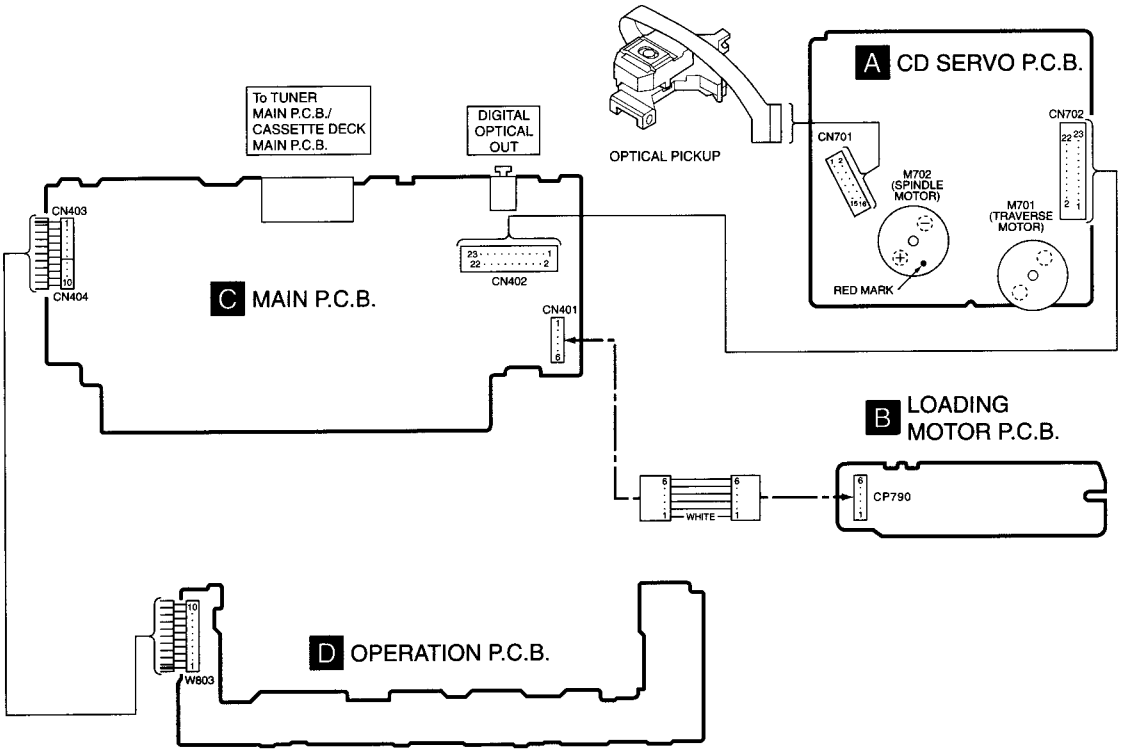
D OPERATION P.C.B.



■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
C MAIN P.C.B.															
IC400	3B	D410	2F	R406	2F	R450	3F	R480	2E	RJ608	3D	RJ802	3D	C412	2E
IC401	2D	D411	2E	R407	2F	R451	3F	R498	3D	RJ609	3D	RJ803	3D	C413	2E
IC402	2B	D420	3E	R409	3B	R452	3F	RJ501	2F	RJ610	3D	RJ901	2B	C416	2E
IC403	3E	D478	3B	R410	3B	R455	2C	RJ502	2F	RJ614	3D	RJ902	2B	C419	2D
IC409	3C	L402	2D	R414	3C	R456	2C	RJ503	2E	RJ616	3C	RJ903	1B	C420	2E
Q401	2F	L406	3D	R415	3E	R458	2E	RJ508	3D	RJ617	3C	RJ904	2B	C425	3E
Q402	2F	L408	3A	R416	3F	R459	2C	RJ509	3D	RJ618	2C	RJ905	2B	C426	2D
Q403	2E	L409	2E	R423	2E	R460	2C	RJ510	3D	RJ619	3C	RJ906	2B	C428	3C
Q404	3F	X401	3E	R427	2E	R470	2E	RJ511	3D	RJ621	2B	RJ907	2B	C467	2B
Q405	2E	CN401	3A	R428	2F	R471	4E	RJ514	3C	RJ622	3B	RJ908	2B	C468	3B
Q408	4E	CN402	2A	R430	3F	R473	4E	RJ601	2F	RJ623	2B	C401	2A	C493	2C
Q409	4E	CN403	2F	R433	3F	R474	2B	RJ602	2E	RJ625	3D	C402	3D	C494	2C
Q411	2F	CN404	2F	R439	2E	R475	3A	RJ603	3E	RJ627	2B	C403	3D	C499	2A
Q415	3F	JK401	2D	R440	2E	R476	3A	RJ604	4E	RJ628	3B	C405	2A		
D404	2E	E401	2D	R441	2D	R477	3B	RJ605	3D	RJ629	3B	C406	3F		
D405	3F	R403	4E	R442	2E	R478	2B	RJ606	3D	RJ630	2A	C409	3A		
D409	2F	R405	3E	R443	2E	R479	3B	RJ607	3D	RJ631	3E	C410	2D		
D OPERATION P.C.B.															
D801	5A	S802	6A	S804	5A	S806	6D	S808	6D	W803	5F				
S801	6B	S803	6B	S805	6C	S807	6E	S809	6E						

12 Wiring Connection Diagram



13 Terminal Function of IC´s

• IC701 (AN8839NSBE2): SERVO AMP

Pin No.	Mark	I/O Division	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	VCC	I	Power supply terminal
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	APC amp. input terminal
7	LD	O	APC amp. output terminal("L": laser ON)
8	RF	O	RF adding output terminal
9	RFIN	I	AGC input terminal
10	CSBRT	I	OFTR capacitor connection terminal
11	CEA	I	HPF-AMP capacitor connection terminal
12	BDO	O	Drop out output terminal("H": Drop out)
13	LDON	I	Laser ON signal input terminal("H": laser ON)
14	GND	—	GND terminal
15	/RFDET	O	RF detection signal output terminal ("H": detection)
16	PDOWN	—	Connected to GND
17	OFTR	O	Off track signal output terminal ("H": off track)
18	NC	—	—
19	ENV	O	RF envelope signal output terminal
20	NC	—	—
21	NC	—	—
22	TEN	I	Tracking error amp input terminal
23	TEOUT	O	Tracking error amp. output terminal
24	FEOUT	O	Focus error amp. output terminal
25	FEN	I	Focus error amp. input terminal
26	VREF	O	VREF output terminal
27	TBAL	I	Tracking balance adj. input terminal
28	FBAL	I	Focus balance adj. input terminal

• IC702 (MN662790RSA): SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER/D-A CONVERTER

Pin No.	Mark	I/O Division	Function
1	BCLK	O	Serial data bit clock output terminal(Not used, open)
2	LRCK	O	L/R discriminating signal output terminal(Not used, open)
3	SRDATA	O	Serial data output terminal(Not used, open)
4	DV_{DD1}	I	Power supply (digital circuit) terminal
5	DV_{SS1}	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal output terminal
7	MCLK	I	Microcomputer command clock signal input terminal(Latching on the data by rising edge)
8	MDATA	I	Microcomputer command data signal input terminal
9	MLD	I	Microcomputer command load signal input terminal
10	SENSE	O	Sense signal output terminal (OFT, FESL, NACEND, NAJEND, DATA, SFG) (Not used, open)
11	/FLOCK	O	Focus servo lead-in signal output terminal ("L": lead-in) (Not used, open)
12	/TLOCK	O	Tracking servo lead-in signal output termianl ("L": lead-in) (Not used, open)
13	BLKCK	O	Sub-code block clock signal output terminal (fBLKCK=75 Hz: normal play)
14	SQCK	I	Sub-code Q resistor external clock signal input terminal
15	SUBQ	O	Sub-code Q code output terminal
16	DMUTE	I	Muting input terminal ("L": mute) (Connected to GND)
17	STAT	O	Status signal output terminal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
18	/RST	O	Reset input terminal
19	SMCK	O	Not used, open
20	CSEL	O	Power supply terminal
21	TRV	O	Traverse forced feed terminal(Not used, open)
22	TVD	O	Traverse drive signal output terminal
23	PC	O	Spindle motor drive signal output terminal ("L": ON)
24	ECM	O	Spindle motor drive signal output terminal (Forced mode)
25	ECS	O	Spindle motor drive signal output terminal (Servo error signal)
26	KICK	O	Kick pulse output terminal (Not used, open)
27	TRD	O	Tracking drive signal output terminal
28	FOD	O	Focus drive signal output terminal
29	VREF	I	VREF input terminal
30	FBAL	O	Focus balance adj. output terminal
31	TBAL	O	Tracking balance adj. output terminal
32	FE	I	Focus error signal input terminal(analog input)
33	TE	I	Tracking error signal input terminal(analog input)
34	RFENV	I	RF envelope signal input terminal
35	VDET	I	Oscillation det. signal input terminal("H": det.) (Connected to GND)
36	OFT	I	Off track signal input terminal("H": off track)
37	TRCRS	I	Track cross signal input terminal(Connected to GND)
38	/RFDET	I	RF detection signal input terminal("L": detection)
39	BDO	I	Dropout signal input terminal ("H": dropout)
40	LDON	O	Laser ON signal output terminal ("H": ON)
41	PLLF2	—	PLL loop filter 2 terminal(Not used, open)
42	DSLF2	—	DSL loop filter 2 terminal
43	WVEL	O	Double velocity status signal output terminal ("H": double) (Not used, open)
44	ARF	I	RF signal input terminal
45	IREF	I	Reference current input terminal
46	DRF	I	DSL bias input terminal
47	DSLF	I/O	DSL loop filter terminal
48	PLLF	I/O	PLL loop filter terminal
49	VCOF	—	VCO loop filter terminal (Not used, connected to GND)
50	AV_{DD2}	I	Power supply (analog circuit) terminal
51	AV_{SS2}	—	GND (analog circuit) terminal
52	EFM	O	EFM signal output terminal(Not used, open)

Pin No.	Mark	I/O Division	Function
53	PCK	O	PLL extract clock output terminal (fPCK=4.321 MHz: normal play)(Not used, open)
54	VCOF2	—	VCO loop filter 2 terminal(Connected to GND)
55	SUBC	O	Sub-code serial data output terminal(Not used)
56	SBCK	I	Sub-code serial data clock input terminal (Connected to GND)
57	V_{SS}	—	GND terminal
58	X1 IN	I	Crystal oscillator input terminal(f=33.8688 MHz)
59	X2 OUT	O	Crystal oscillator output terminal(f=33.8688 MHz)
60	V_{DD}	I	Power supply (oscillation circuit) terminal
61	BYTCK	O	Byte clock output terminal (Not used, open)
62	/CLDCK	O	Sub-code frame clock signal output terminal (fCLDCK=7.35 kHz: normal play) (Not used)
63	FCLK	O	Crystal frame clock signal output terminal (fCLK=7.35 kHz, double velocity 14.7 kHz) (Not used, open)
64	IPFLAG	O	Data error flag output terminal("H": interpolation) (Not used, open)
65	FLAG	O	Flag output terminal (Not used, open)
66	CLVS	O	Spindle servo phase synchro signal output terminal ("H": CLV, "L": Rough servo) (Not used, open)
67	CRC	O	Sub-code CRC check output terminal("H": ON, "L": NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output terminal ("H": ON) (Not used, open)
69	RESY	O	Re-synchronizing signal of frame sync.output terminal (Not used, open)
70	IOSEL	I	Power supply (digital circuit) terminal
71	/TEST	I	Test input terminal (Connected to power supply)
72	AV_{DD1}	I	Power supply (analog circuit) terminal
73	OUTL	O	L ch audio signal output terminal
74	AV_{SS1}	—	GND terminal
75	OUTR	O	R ch audio signal output terminal
76	RSEL	I	RF signal polarity designation input terminal (Connected to power supply)
77	IOVDD	I	Crystal oscillator frequency designation input terminal(Connected to power supply)
78	PSEL	I	Test input terminal(Usually:"H") (Connected to GND)
79	MSEL	I	Output frequency switching terminal of SMAC("H":SMCK=8.4672MHz, "L":SMCK=4.2336MHz) (Connected to GND)
80	SSEL	I	Output mode switching terminal of SUBQ("H":Q-code buffer using mode) (Connected to power supply)

• IC703(AN8739SBE2):FOCUS COIL/TRACKING COIL/ TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE

Pin No.	Mark	I/O Division	Function
1	/RST	—	Reset output terminal (Not used, open)
2	NC	—	Not used
3	IN2	I	Motor driver (2) input terminal
4	PC2	I	PC2 (power cut) input terminal
5	NC	—	Not used
6	IN1	I	Motor driver (1) input terminal
7	PVCC1	I	Power supply (for driver) terminal
8	PGND1	—	GND (for driver) terminal (1)
9	NC	—	Not used
10	D1-	O	Traverse motor driver (1) output terminal (-)
11	D1+	O	Traverse motor driver (1) output terminal (+)
12	D2-	O	Spindle motor driver (2) output terminal (-)
13	D2+	O	Spindle motor driver (2) output terminal (+)
14	D3-	O	Tracking coil signal output terminal (-)
15	D3+	O	Tracking coil signal output terminal (+)
16	D4-	O	Focus coil signal output terminal (-)
17	D4+	O	Focus coil signal output terminal (+)
18	NC	—	Not used
19	PGND2	—	GND (for driver) terminal (2)
20	PVCC2	I	Power supply (for driver) terminal (2)
21	VCC	I	Power supply terminal
22	VREF	I	Reference voltage input terminal
23	IN4	I	Motor driver (4) input terminal
24	IN3	I	Motor driver (3) input terminal
25	RSTIN	I	Reset input terminal (Connected to GND)
26	NC	—	Not used

• IC403(LC66358C4K97):SYSTEM CONTROL

Pin No.	Mark	I/O Division	Function
1	STR1	O	Key switch 1 det. terminal
2	STR2	O	Key switch 2 det. terminal
3	SVRST	O	Reset signal terminal of servo IC (IC702)
4	SUBQ	I	Sub-code data input terminal
5	GATE	O	Select signal output terminal (Not used, open)
6	NC	—	Not used, open
7	SQCK	O	Sub-code registor clock output terminal
8	BLKCK	I	Sub-code block signal input terminal
9	DQSY	I	Reading permission terminal of data (Not used, connected to power supply)
10	LED STOP	O	LED drive signal terminal
11	LED PLAY	O	
12	HOLD	I	Not used, connected to power supply
13	/MLD	O	Command load signal terminal to IC702
14	MDATA	O	Command data signal terminal to IC702
15	TEST	—	Not used, connected to GND
16	V_{SS}	—	GND terminal
17	OSC1	I	Crystal oscillator connected terminal (f=4.19MHz)
18	NC	—	Not used, open
19			
20	OSC2	O	Crystal oscillator connected terminal (f=4.19MHz)
21	/RST	I	Reset signal input terminal
22	MCLK	O	Command clock output terminal to IC702
23	CHK MODE	I	Not used (Connected to power supply through registor)
24	CLK CNT	O	Clock control signal output terminal (Not used, open)
25	CLK SPD	O	Communication clock velocity select input terminal

Pin No.	Mark	I/O Division	Function
26	CS	O	Communication request receiving signal terminal to FL drive/ system control IC
27	REQ	I	Communication request signal terminal to FL drive/ system control IC
28	DTI	I	Data input terminal from FL drive/ system control IC
29	DTO	O	Data output terminal to FL drive/ system control IC
30	NC	—	Not used, open
31	CLK	O	Clock terminal to FL drive/ system control IC
32	DISPLED	—	Not used, open
33	CLOSE	O	Loading motor "CLOSE" command signal output terminal
34	OPEN	O	Loading motor "OPEN" command signal output terminal
35	CLOSE SW	I	Disc tray "CLOSE" det. switch signal input terminal
36	OPEN SW	I	Disc tray "OPEN" det. switch signal input terminal
37	REST SW	I	Rest position det. signal input terminal
38	STAT	I	Status signal terminal
39	V_{DD}	I	Power supply terminal
40	CDUNIT	I	Connected to power supply through registor
41	MODEL	I	
42	NC	—	Not used, open
43	NC	—	
44	KEY0	I	Key switch 0 det. input terminal
45	KEY1	I	Key switch 1 det. input terminal
46	KEY2	I	Key switch 2 det. input terminal
47	SPEED	O	PLL filter of CD unit select output terminal
48	STR0	O	Key switch 0 det.output terminal

14 Replacement Parts List

Notes:

Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Funthermore, special parts which have purposes of fireretardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)

*Resistance value are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	SL-HD301 only
1	RHD30073-K	SCREW	4	SL-HD501 ONLY
2	RKM0398A-S	CABINET	1	SL-HD301 ONLY
2	RKM0398-S	CABINET	1	SL-HD501 ONLY
3	XTBS3+8JFZ1	SCREW	7	
4	REX0898	CONNECTOR ASS'Y(6P)	1	
5	REZ1056-2	FFC(23P)	1	
6	RKA0076-N2	FOOT	4	
6-1	RKA0083-K	CUSHION	4	
7	XTB3+6G	SCREW	4	
8	RFKGLHD301EN	FRONT PANEL ASS'Y	1	SL-HD301 ONLY
8	RFKGLHD501EN	FRONT PANEL ASS'Y	1	SL-HD501 ONLY
9	RGK0821-S	SIDE ORNAMENT(L)	1	SL-HD301 ONLY
9	RGK1138-N	SIDE ORNAMENT(L)	1	SL-HD501 ONLY
10	RGK0822-S	SIDE ORNAMENT(R)	1	SL-HD301 ONLY
10	RGK1139-N	SIDE ORNAMENT(R)	1	SL-HD501 ONLY
11	RGL0335-1Q	PANEL LIGHT	1	
12	RGU1743-S	BUTTON	1	
13	XQN26+AJ6FZ	SCREW	9	
14	RYQ0203A-S	TRAY ORNAMENT	1	
15	XTB3+12JFZ	SCREW	1	
16	XTB3+18JFZ	SCREW	4	
17	RGK0817-1M	SIDE PANEL(L)	1	SL-HD501 ONLY
18	RGK0818-1M	SIDE PANEL(R)	1	SL-HD501 ONLY
101	RFKJXDT07-K	LOADING CHASSIS ASS'Y	1	
101A	RDG0142	LOADING GEAR	1	
101B	RDG0193	DRIVE GEAR(A)	1	
101C	RDP0065	PULLEY	1	
102	REM0019	LOADING MOTOR ASS'Y	1	
104	RGQ0144-K	DISC TRAY	1	
105 ⚠	RAE0152Z-1	TRAVERSE DECK ASS'Y	1	
105A	SHGD113-1	FLOATING RUBBER	3	
105B	SNSD38	SCREW	2	
106	RMS0350-1	PIN(B)	1	
107	RMS0627	PIN(A)	1	
108	RME0109	SPRING(A)	2	
109	RME0142	SPRING(B)	1	
110	RMR0698-K	TRAVERSE CHASSIS	1	
111	XTV2+6G	SCREW	2	
112	RME0063	LOCK LEVER SPRING	1	
113	RMM0079-1	SLIDE PLATE(1)	1	
114	RML0178-1	LOCK LEVER	1	
115	RFKNLPG440-K	DRIVE GEAR(B) ASS'Y	1	
116	RHD20009-1	SCREW	1	
117	RME0087	SPRING	1	
118	RML0349	CONVERSION LEVER	1	
119	RMM0059-1	SLIDE PLATE(2)	1	
120	RMR0334	MAGNET HOLDER	1	
121	RHM245ZA	MAGNET	1	
122	RXQ0380	DISC HOLDER	1	
123	XTN26+6G	SCREW	3	
124	RMA0793-1	DISC CLAMPER ASS'Y	1	
125	XYN2+F6FZ	SCREW	2	
126	RMG0158	BELT	1	
127	XTN2+6G	SCREW	1	
C401	ECUV1H102KBN	50V 1000P	1	
C402	ECUV1E104ZFN	25V 0.1U	1	
C403	ECEA0JKS101	6.3V 100	1	
C405	ECUV1E104ZFN	25V 0.1U	1	
C406	ECEA1HKS3R3	50V 3.3U	1	
C409	ECUV1E103ZFN	25V 0.01U	1	
C410	ECA1CM471	16V 470U	1	
C412,13	ECUV1E103ZFN	25V 0.01U	2	
C416	ECEA1AKS220	10V 22U	1	
C419	ECEA1AKS221	6.3V 220	1	
C420	ECEA1AKS221	10V 220U	1	
C425	ECUV1E103ZFN	25V 0.01U	1	
C426	ECUV1H101JCN	50V 100P	1	
C428	ECUV1E104ZFN	25V 0.1U	1	
C467	ECUV1C474ZFN	16V 0.47	1	
C468	ECEA1AKS221	6.3V 220U	1	
C493,94	ECUV1H102KBN	50V 1000P	2	
C499	ECUV1H102KBN	50V 1000P	1	
C701	ECEA0JKA330I	6.3V 33U	1	
C702	ECUZNE104MBN	25V 0.1U	1	
C703	ECEA0JKS101	6.3V 100U	1	
C704	ECUZNE104MBN	25V 0.1U	1	
C706	ECUV1H272KBN	50V 2700P	1	
C707	ECUV1E273KBN	25V 0.027U	1	
C710	ECUV1H121KCN	50V 120P	1	
C711,12	ECUWNE104ZFN	25V 0.1U	2	
C713	ECUZNE104MBN	25V 0.1U	1	
C714	ECEA0JKS101	6.3V 100U	1	
C715	ECUV1H272KBN	50V 2700P	1	
C716	ECUV1H821KBN	50V 820P	1	
C717	ECUWNE104ZFN	25V 0.1U	1	
C718	ECUV1E104KBN	25V 0.1U	1	
C721,22	ECUV1H030CCN	50V 3P	2	
C723	ECEA1AKS221	10V 220U	1	
C724	ECUZNE104MBN	25V 0.1U	1	
C725,26	ECUE1H102KBN	50V 1000P	2	
C727,28	ECEA1HKS010	50V 1U	2	
C730	ECUWNE104ZFN	25V 0.1U	1	
C731,32	ECEA1AKS221	6.3V 220U	2	
C733	ECUZNE104MBN	25V 0.1U	1	
C734	ECEA1AKS221	10V 220U	1	
C735-37	ECUWNE104ZFN	25V 0.1U	3	
C738	ECUE1H103KBN	50V 0.01U	1	
C739	ECUE1H152KBN	50V 1500P	1	
C742	ECUV1E273KBN	25V 0.027U	1	
C743	ECUWNE104ZFN	25V 0.1U	1	
C744	ECUE1E822KBN	25V 8200P	1	
C745	ECUE1H102KBN	50V 1000P	1	
C747	ECUV1H181KCN	50V 180P	1	
C749	ECUE1H222KBN	50 2200P	1	
C750,51	ECUZNE104MBN	25V 0.1U	2	

SL-HD301 / SL-HD501

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C752	ECUE1H102KBN	50V 1000P	1	
C753	ECUV1H471KBM	50V 470P	1	
C754	ECUE1H471KBN	50V 470P	1	
C760	ECUV1E104KBN	25V 0.1U	1	
C790	ECA1AKF820	10V 82U	1	
CN401	RJP6G18ZA	CONNECTOR(6P)	1	
CN402	RJS1A6823	CONNECTOR(23P)	1	
CN403	RJS1A6606	CONNECTOR(6P)	1	
CN404	RJS1A6604	CONNECTOR(4P)	1	
CN701	RJU035T016-1	CONNECTOR(16P)	1	
CN702	RJS1A6723-1Q	CONNECTOR(23P)	1	
CP790	RJP6G17ZA	CONNECTOR(6P)	1	
D404 ⚠	MA8082M	DIODE	1	
D405	MA8039LTX	DIODE	1	
D409-11	MA111TX	DIODE	3	
D420	MA728TX	DIODE	1	
D478	MA111TX	DIODE	1	
D801	SPR-305MDTF	L.E.D.	1	
IC400 ⚠	UPC29M33T	IC	1	
IC401 ⚠	LM2940T5	IC	1	
IC402	T0TX178	IC	1	
IC403	LC66358C4K97	IC	1	
IC409	TC74HCT7007A	IC	1	
IC701	AN8839NSBE2	IC	1	
IC702	MN662790RSA	IC	1	
IC703	AN8739SBE2	IC	1	
IC790	TA7291S	IC	1	
JK401	RJT065K19	SYSTEM CONNECTOR(19P)	1	
L402	RLBN300AV-W	COIL	1	
L406	RLBN601V-W	COIL	1	
L408	RLBN601V-W	COIL	1	
L409	RLQP1R0KT1-Y	COIL	1	
L701,02	RLBN102V-Y	COIL	2	
Q401	2SC4081STX	TRANSISTOR	1	
Q402	DTC143EUT106	TRANSISTOR	1	
Q403	2SC4081STX	TRANSISTOR	1	
Q404	DTC114YUT106	TRANSISTOR	1	
Q405 ⚠	2SD2137PQTA	TRANSISTOR	1	
Q408,09	DTA143XUT106	TRANSISTOR	2	
Q411	DTC143EUT106	TRANSISTOR	1	
Q415	2SC4081STX	TRANSISTOR	1	
Q701	2SB709S	TRANSISTOR	1	
Q702	DTC143XUA106	TRANSISTOR	1	
R403	ERJ6GEYJ102Z	1/10W 1K	1	
R405,06	ERJ6GEYJ103V	1/10W 10K	2	
R407	ERJ6GEYJ223V	1/10W 22K	1	
R409	ERJ8GEYJ103V	1/8W 10K	1	
R410	ERJ6GEYJ103V	1/10W 10K	1	
R414	ERJ8GEYJ472V	1/8W 4.7K	1	
R415	ERJ6GEYJ105	1/10W 1M	1	
R416	ERJ6GEYJ103V	1/10W 10K	1	
R423	ERJ8GEYJ472V	1/8W 4.7K	1	
R427	ERJ6GEYJ472V	1/10W 4.7K	1	
R428	ERJ6GEYJ103V	1/10W 10K	1	
R430	ERJ6GEYJ104V	1/10W 100K	1	
R433	ERJ6GEYJ472V	1/10W 4.7K	1	
R439	ERJ8GEYJ101V	1/8W 100	1	
R440	ERJ8GEYJ102V	1/8W 1K	1	
R441 ⚠	ERQ16NKWR22E	1/6W 0.22	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R442 ⚠	ERDS1FJ181	1/2W 180	1	
R443 ⚠	ERD2FCJ6R8	1/4W 6.8	1	
R450,51	ERJ6GEYJ472V	1/10W 4.7K	2	
R452	ERJ6GEYJ331V	1/10W 330	1	
R455,56	ERJ6GEYJ102Z	1/10W 1K	2	
R458	ERJ6GEYJ102Z	1/10W 1K	1	
R459,60	ERJ6GEYJ224V	1/10W 220K	2	
R470	ERJ8GEYJ103V	1/8W 10K	1	
R471	ERJ6GEYJ331V	1/10W 330	1	
R473	ERJ6GEYJ331V	1/10W 330	1	
R474	ERJ6GEYJ392V	1/10W 3.9K	1	
R475-77	ERJ6GEYJ272V	1/10W 2.7K	3	
R478	ERJ8GEYJ222V	1/8W 2.2K	1	
R479	ERJ6GEYJ272V	1/10W 2.7K	1	
R480	ERJ8GEYJ103V	1/8W 10K	1	
R498	ERJ6GEYJ472V	1/10W 4.7K	1	
R701	ERJ6GEYJ4R7V	1/10W 4.7	1	
R702	ERJ6GEYJ103V	1/10W 10K	1	
R704	ERJ6GEYJ102A	1/10W 1K	1	
R705	ERJ6GEYJ154V	1/10W 150K	1	
R706	ERJ6GEYJ102A	1/10W 1K	1	
R707,08	ERJ6GEYJ223Z	1/10W 22K	2	
R709	ERJ6GEYJ683Z	1/10W 68K	1	
R711	ERJ6GEYJ823	1/10W 82K	1	
R712	ERJ8GEYJ221V	1/8W 220	1	
R714	ERJ6GEYJ682V	1/10W 6.8K	1	
R715	ERJ6GEYJ102A	1/10W 1K	1	
R717,18	ERJ6GEYJ102A	1/10W 1K	2	
R721	ERJ6GEYJ101V	1/10W 100	1	
R723	ERJ6GEYJ682V	1/10W 6.8K	1	
R724	ERJ6GEYJ183V	1/10W 18K	1	
R725	ERJ6GEYJ391V	1/10W 390	1	
R727	ERJ6GEYJ472V	1/10W 4.7K	1	
R728,29	ERJ6GEYJ392V	1/10W 3.9K	2	
R731	ERJ6GEYJ682V	1/10W 6.8K	1	
R735,36	ERJ6GEYJ101V	1/10W 100	2	
R741	ERJ6GEYJ473V	1/10W 47K	1	
R742	ERJ6GEYJ224Z	1/10W 220K	1	
R744	ERJ6GEYJ124V	1/10W 120K	1	
R749	ERJ6GEYJ472V	1/10W 4.7K	1	
R753	ERJ6GEYJ100	1/10W 10	1	
R754	ERJ8GEYJ100V	1/8W 10	1	
RJ501-03	ERJ6GEY0R00	1/10W 0	3	
RJ508-11	ERJ6GEY0R00	1/10W 0	4	
RJ514	ERJ6GEY0R00	1/10W 0	1	
RJ601-10	ERJ8GEY0R00V	1/8W 0	10	
RJ614	ERJ8GEY0R00V	1/8W 0	1	
RJ616-19	ERJ8GEY0R00V	1/8W 0	4	
RJ621-23	ERJ8GEY0R00V	1/8W 0	3	
RJ625	ERJ8GEY0R00V	1/8W 0	1	
RJ627-31	ERJ8GEY0R00V	1/8W 0	5	
RJ701	ERJ6GEY0R00A	1/10W 0	1	
RJ702-10	ERJ8GEY0R00A	1/8W 0	9	
RJ712-14	ERJ8GEY0R00A	1/8W 0	3	
RJ716,17	ERJ8GEY0R00A	1/8W 0	2	
RJ721,22	ERJ6GEY0R00A	1/10W 0	2	
RJ724	ERJ6GEY0R00A	1/10W 0	1	
RJ726-28	ERJ6GEY0R00A	1/10W 0	3	
RJ731,32	ERJ6GEY0R00A	1/10W 0	2	
RJ734,35	ERJ6GEY0R00A	1/10W 0	2	
RJ750	ERJ6GEY0R00A	1/10W 0	1	
RJ802,03	ERJ6GEY0R00	1/10W 0	2	
RJ901-08	ERJ6GEY0R00	1/10W 0	8	
S701	RSH1A043-U	SW REST	1	
S790,91	RSH1A005	SW COVER OPEN/CLOSE DET.	2	
S801-09	EVQ21405R	SW PUSH	9	
SA1	SZZP1054C	PLAYABILITY TEST DISC	1	

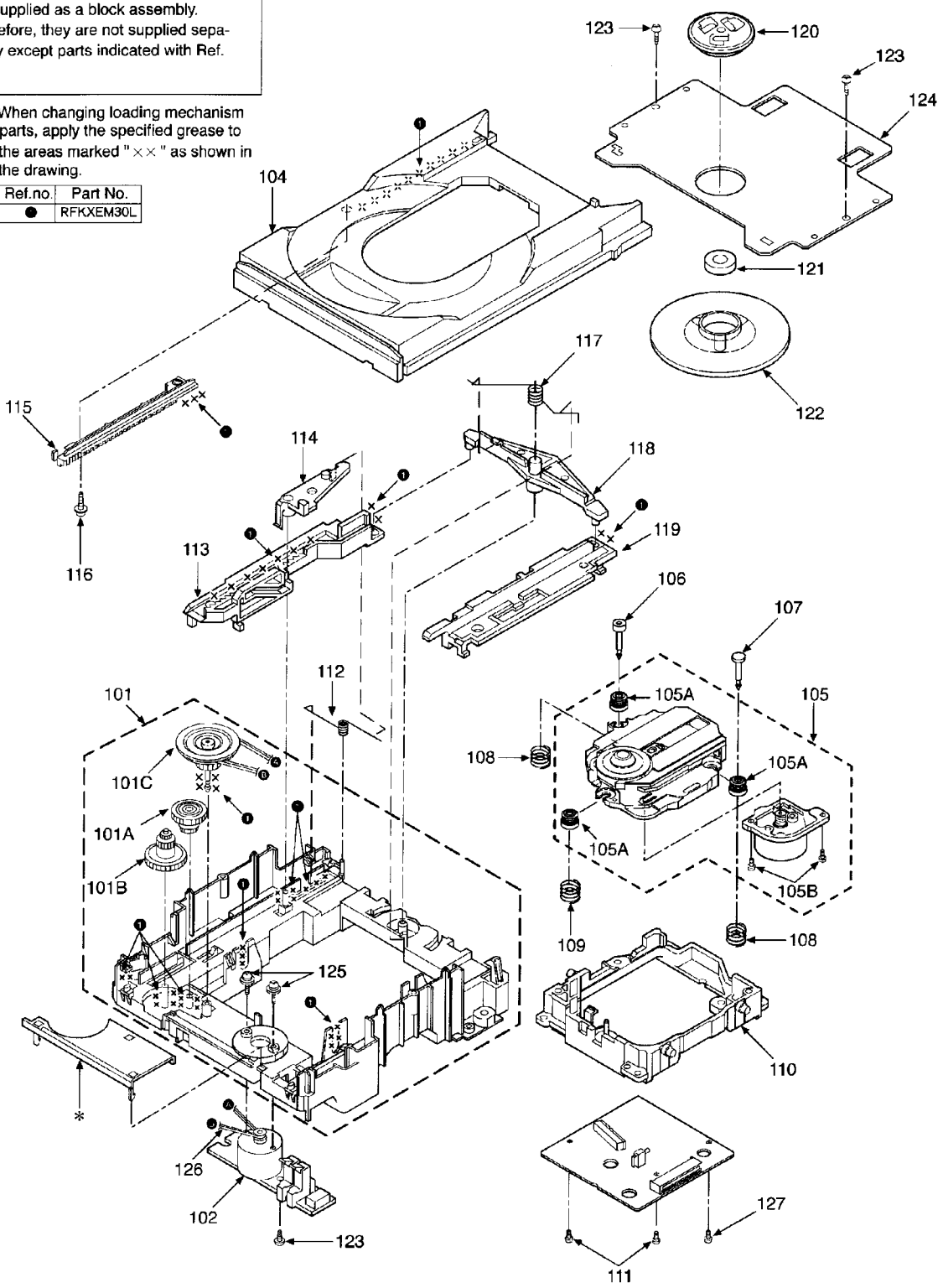
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
SA2	RFKXEM30L	GREASE EM30L	1	
TJ701	EYF8CU	TEST JUMPER	1	
X401	EF0EC4194A4	OSCILLATOR	1	
X701	RSXB33M8J01T	OSCILLATOR	1	

15 Loading Mechanism Parts Location

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No. .

Note: When changing loading mechanism parts, apply the specified grease to the areas marked "××" as shown in the drawing.

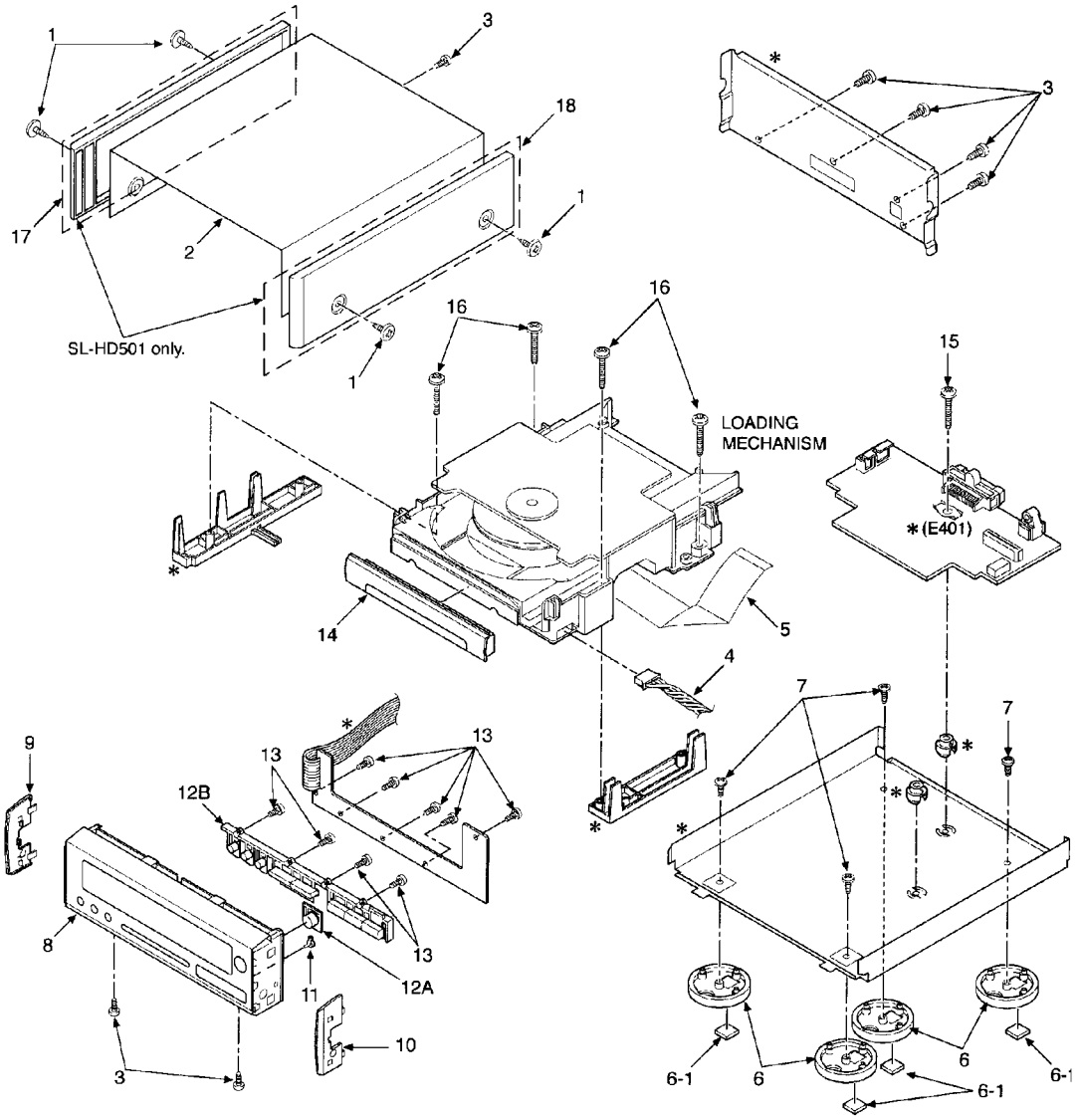
Ref.no.	Part No.
●	RFKXEM30L

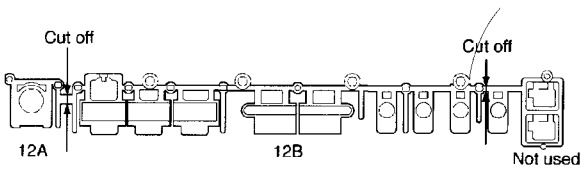


Note: We do not supply those items of parts marked *.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
101	RFKJXDT07-K	LOADING CHASSIS ASS'Y	1	
101A	RDG0142	LOADING GEAR	1	
101B	RDG0193	DRIVE GEAR(A)	1	
101C	RDP0065	PULLEY	1	
102	REM0019	LOADING MOTOR ASS'Y	1	
104	RGQ0144-K	DISC TRAY	1	
105 ⚠	RAE0152Z-1	TRAVERSE DECK ASS'Y	1	
105A	SHGD113-1	FLOATING RUBBER	3	
105B	SNSD38	SCREW	2	
106	RMS0350-1	PIN(B)	1	
107	RMS0627	PIN(A)	1	
108	RME0109	SPRING(A)	2	
109	RME0142	SPRING(B)	1	
110	RMR0698-K	TRAVERSE CHASSIS	1	
111	XTV2+6G	SCREW	2	
112	RME0063	LOCK LEVER SPRING	1	
113	RMM0079-1	SLIDE PLATE(1)	1	
114	RML0178-1	LOCK LEVER	1	
115	RFKNLPG440-K	DRIVE GEAR(B) ASS'Y	1	
116	RHD20009-1	SCREW	1	
117	RME0087	SPRING	1	
118	RML0349	CONVERSION LEVER	1	
119	RMM0059-1	SLIDE PLATE(2)	1	
120	RMR0334	MAGNET HOLDER	1	
121	RHM245ZA	MAGNET	1	
122	RXQ0380	DISC HOLDER	1	
123	XTN26+6G	SCREW	3	
124	RMA0793-1	DISC CLAMPER ASS'Y	1	
125	XYN2+F6FZ	SCREW	2	
126	RMG0158	BELT	1	
127	XTN2+6G	SCREW	1	

16 Cabinet parts Location





Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	SL-HD301 ONLY
1	RHD30073-K	SCREW	4	SL-HD501 ONLY
2	RKM0398A-S	CABINET	1	SL-HD301 ONLY
2	RKM0398-S	CABINET	1	SL-HD501 ONLY
3	XTBS3+8JFZ1	SCREW	7	
4	REX0898	CONNECTOR ASS'Y(6P)	1	
5	REZ1056-2	FFC(23P)	1	
6	RKA0076-N2	FOOT	4	
6-1	RKA0083-K	CUSHION	4	
7	XTB3+6G	SCREW	4	
8	RFKGLHD301EN	FRONT PANEL ASS'Y	1	SL-HD301 ONLY
8	RFKGLHD501EN	FRONT PANEL ASS'Y	1	SL-HD501 ONLY

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
9	RGK0821-S	SIDE ORNAMENT(L)	1	SL-HD301 ONLY
9	RGK1138-N	SIDE ORNAMENT(L)	1	SL-HD501 ONLY
10	RGK0822-S	SIDE ORNAMENT(R)	1	SL-HD301 ONLY
10	RGK1139-N	SIDE ORNAMENT(R)	1	SL-HD501 ONLY
11	RGL0335-1Q	PANEL LIGHT	1	
12	RGU1743-S	BUTTON	1	
13	XQN26+AJ6FZ	SCREW	9	
14	RYQ0203A-S	TRAY ORNAMENT	1	
15	XTB3+12JFZ	SCREW	1	
16	XTB3+18JFZ	SCREW	4	
17	RGK0817-1M	SIDE PANEL(L)	1	SL-HD501 ONLY
18	RGK0818-1M	SIDE PANEL(R)	1	SL-HD501 ONLY

Printed in Japan (H9903[illegible]5100 KK/HH)

AD0002031S0
A6

Service Manual

Compact Disc Player

Supplement

SL-HD51
SL-HD55
SL-HD81
SL-HD301
SL-HD501
SL-HD501V
SL-HD505
SL-VM535
SL-VM545
SL-VS503
SL-VS504

Areas

(PP).....U.S.A. and Canada.

(E).....Europe.

(GC)(GC1).....Asia, Latin America, Middle Near East and Africa.

(GK).....China.

(GU).....Asia and Middle Near East.

Subject : Supply of individual parts for Traverse Deck (RAE0152Z-1)

Please file and use this supplement manual together with the service manual for
Model No.SL-HD51 (E), Order No.AD9803047C2.
Model No.SL-HD55 (PP), Order No.AD9806100A1.
Model No.SL-HD55 (E), Order No.AD9803050C2.
Model No.SL-HD55 (GC1), Order No.AD9804081A3.
Model No.SL-HD81 (E), Order No.AD9802027C2.
Model No.SL-HD301/501 (E), Order No.AD9902011C8.
Model No.SL-HD501V (GC)(GK), Order No.AD9906152C3.
Model No.SL-HD505 (PP)(E), Order No.AD9904111C5.
Model No.SL-VM535 (GC)(GK), Order No.AD9811210C3.
Model No.SL-VM545 (GC)(GU), Order No.AD9911249A3.
Model No.SL-VS503 (GC)(GK), Order No.AD9806093C3.
Model No.SL-VS504 (GC)(GU), Order No.AD9910244A3.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics® / Panasonic®

© 2000 Matsushita Electric Industrial Co., Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

1 Purpose

This supplement manual is intended to provide the following information to the Service Manual indicated in cover:

- Traverse Deck parts have hitherto been supplied in the form of units, but hereafter individual parts will also be supplied.
  - – Replacement Parts List of Traverse Deck
  - – Traverse Deck Parts Location

2 Replacement Parts List of Traverse Deck

Notes:

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.
- All parts are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
601	RAE0152Z-1	TRAVERSE DECK ASS'Y	1	
601-1	SHGD113-1	FLOATING RUBBER	3	
601-2	SNSD38	SCREW	2	
601-3	RAF0150A-1	OPTICAL PICKUP	1	⚠
601-4	RDG0247	DRIVE GEAR	1	
601-5	RDG0248	INTERMEDIATE GEAR	1	
601-6	RXQ0339	TRAVERSE MOTOR	1	
601-7	RXQ0304-1	PLATE	1	
601-8	XQN17+CG5	SCREW	1	
601-9	XQN2+CQ5	SCREW	1	
601-10	XQS17+A35FZ	SCREW	2	

3 Traverse Deck Parts Location